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A DEMONSTRATION OF THE IMPACT OF CERTAIN INSTRUCTIONAL CHANGES ON THE ATTITUDES AND PRACTICES OF BOTH STUDENTS AND FACULTY. FINAL REPORT.

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THIS DOCUMENT REPORTS DATA COLLECTED OVER THREE SEMESTERS ON THE USE AND IMPACT OF A "LEARNING CENTER"--INDIVIDUAL CARRELS THAT INCLUDE AUDIO TAPE EQUIPMENT IN THE LIBRARY FOR EACH OF THE COLLEGE'S 700 STUDENTS. DETAILED TABLES REPORT RESULTS OF STUDENT AND FACULTY ATTITUDE QUESTIONNAIRES INCLUDING SEMANTIC SCALES, OFFICIAL RECORDS OF LIBRARY AND LEARNING CENTER USE, CONSTRUCTION AND COST FACTORS, AND OBSERVATIONS BY STUDENTS (DIARIES), FACULTY, AND AN OFF-CAMPUS EDUCATOR. IT WAS FOUND THAT STUDENT STUDY TIME INCREASED ABOUT 25 PERCENT AFTER CONSTRUCTION OF THE CENTER, THAT EACH FACULTY MEMBER WHO USED THE CENTER SAVED ABOUT FIVE HOURS PER WEEK, AND THAT STUDENT AND PUBLIC ATTITUDE AND INTEREST IN THE CENTER WAS HIGH AND POSITIVE. THE AVERAGE STUDENT GRADE POINT DID NOT CHANGE. (LH)

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FINAL REPORT

Project No. BR 5-1002 — 64
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A Demonstration Of The Impact Of Certain Instructional Changes On The Attitudes And Practices Of Both Students And Faculty

September, 1967

U.S. DEPARTMENT OF
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Office of Education
Bureau of Research

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R. Stafford North

September, 1967

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Dr. Herbert Hengst, University of Oklahoma, has served as a process observer from off the Oklahoma Christian College campus. While his role called for him to remain somewhat apart, he made significant contributions even beyond the portion of the study which includes his observations.

Certainly appreciation is due the faculty, Learning Center staff, students, and administration of Oklahoma Christian College. Without patience and cooperation from these persons in recording their impressions, completing forms and questionnaires, and contributing in many other ways, this study would have been impossible.

The writer also wishes to express gratitude for the grant from the Dissemination Branch of the U. S. Office of Education which has made this study possible. Coming at the beginning of the entire Learning Center project, the grant not only made it possible to observe the changes in a more careful way than would otherwise have been possible, but also provided funds which made it possible for the Learning Center's initial thrust to be sufficient to be measured.

CHAPTER I: INTRODUCTION

Oklahoma Christian College (OCC) was founded in 1950 as a junior college much in the tradition of the private, religiously oriented, liberal arts college. By the 1961-62 school year the college had grown to 379 students and had expanded its offering to four years. In moving from the two year to the four year status, the college was aware of the additional library facilities that would be needed, and during the 1962-63 school year particular attention was given to planning a new library building.

As thought was being given to the new library, Dr. Glenn Nimnicht, then of the Educational Facilities Laboratory, visited the college and spoke to the faculty. In the discussions which accompanied his visit, he mentioned some of the significant new developments in libraries around the country including such innovations as dial access retrieval systems and new uses of carrels.

Following his visit, the faculty and administration continued discussions of these possibilities and made further investigations. Two points of special interest began to emerge: (1) the need for an undergraduate student to have his own personal place to study in an environment designed for study and (2) the special values in instruction available by using audio-tapes simultaneously with a workbook. These ideas merged into the concept of providing every student with his own carrel and equipping that carrel with dial access to recorded material.

As a small, liberal arts college, OCC was well aware of the financial difficulties which face the private sector of higher education and was convinced that in order to survive it would have to attain a degree of excellence and uniqueness. So, along with the desire to improve instructional effectiveness there was also the hope of finding some means of increasing instructional efficiency.

The concept of the OCC Learning Center, then, was developed around a desire to provide improved study facilities for all students, the need to improve both the effectiveness and the efficiency of collegiate instruction, and the conviction that new media in general and tape recorded instruction in particular could contribute to these ends.

Under the direction of President James O. Baird, a proposal based on this concept was submitted to the Fund for the Advancement of Education. Even though FAE did not fund it, the college continued to believe the approach was sound and continued to seek financing for the project.

During the summer of 1963, Dr. Stafford North, Dean of Instruction and Professor of Speech, developed materials for an experiment with tape-workbook instruction. He re-structured the beginning public speaking course so as to replace 16 of the 48 class meetings with 16 tape recordings of about 45 minutes in length. Workbook materials to accompany each tape were prepared and collected into a 91-page notebook. All sections of the speech course used this material during the 1963-64 school year and the response from both teachers and students was favorable.

A proposal was submitted to the Cooperative Research Branch of USOE to compare the results of teaching the course through the tape recordings and two class meetings a week with the conventional three class meetings a week. The proposal was funded and the results of the study, USOE-Cooperative Research Project No. 2574, indicated that there was no significant difference in the amount learned but there was an increase of 60 percent in the teacher's efficiency and an eight to one preference by students for this style of instruction.

Based on these results and a growing desire to provide the student with better study facilities, the college was continuing to plan the Learning Center. The Business Manager, W. O. Beeman, developed a financing plan which made the building income producing through carrel rental fees. This, in turn, allowed a "self-liquidating" loan to be secured from a private source. By the fall of 1964, the architects had the plans completed and construction was begun.

With the decision now made to proceed with a Learning Center which provided each student enrolled with his own electronically equipped carrel, and with the building under construction, the faculty and administration turned their attention to preparing to use the new facility.

Considerable planning and preparation was made, particularly through a conference which brought special consultants to the college campus. During the preliminary discussion, it became obvious that the college would be attempting something rarely done in institutions of higher education: to make a rather sudden transition from a college of traditional practices in instruction to one which was going to make significant use of new media. A proposal was, therefore, submitted to the Dissemination Branch of the U. S. Office of Education which offered

> to observe and record the changes brought about in student and faculty roles and instructional and administrative procedures by the installation of an individualized instructional program involving the resources of the Learning Center facility and the audio-tape workbook method.

The proposal was accepted and a contract of $71,811 was negotiated between Oklahoma Christian College and the Office of Education on June 1, 1965. According to the contract:

> This project will enable the college to demonstrate the dynamics of a school in the process of changing from a conventional approach in instruction to the extensive use of new facilities and media. The overall objective of this project would be to observe changes as they occur in this situation and report them in a fashion useful to other institutions who may contemplate the development of similar instructional systems.

While the Advisory Committee to be appointed was charged with sharpening the focus of the study, nine basic questions were to be considered by this project:

1. To what extent are the new facilities utilized by the faculty? Are there generalizations to be made from observing which instructors and departments make greater and lesser use?

2. To what extent do students use the new facilities? Are there generalizations to be made from observing which students make greater and lesser use?

3. How do the new facilities and media affect certain technical and procedural aspects of the college's operation such as classroom use, space utilization, and scheduling?

4. What are the student and faculty attitudes regarding the contribution the facilities and media make toward the instructional program?

5. What effect does the use of the various teaching media have on the faculty member's conception of his role - his relationship to the students - his use of time?

6. Does the use of the various new media and the individual study carrel alter the student's life on the campus - his use of time - his attitudes toward study and teachers - social dormitory life - and his conception of the student role in the learning process?

7. What effect does the Learning Center with its attendant opportunities and impact have on the nature of students attracted and held at the college?

8. What changes or improvements can be made in the curriculum and program as result of the information gathered in this study?

9. What helpful information can be made available to other institutions of learning as result of these observations on the preparation for and early use of the Learning Center facility?

Each of these questions is answered in this report although for clarity and simplicity they have been condensed into three areas: use of the Learning Center, attitudes toward the Learning Center, and effects of the Learning Center on campus operation.

CHAPTER II: METHOD

The basic objective of the Impact project was to observe the impact of the Learning Center on the campus and to record any changes which might occur. It is the purpose of this section of the report to describe how this basic objective of the project was carried out.

First, an Advisory Committee composed of three nationally recognized educational consultants was formed to guide the Impact staff in planning and executing the project. The members of the committee were Dr. Samuel Baskin of Antioch College, Dr. Wesley Meierhenry, University of Nebraska, and Dr. A. J. Brumbaugh of the Southern Regional Education Board. Dr. Brumbaugh resigned because of health in the spring of 1966 and Dr. Richard Lewis of San Jose State College was appointed to take his seat on the committee.

The fall semester of the 1965-66 school year was spent in determining what data to collect and the method for gathering it. The Advisory Committee met with the project staff in August, 1965, and again in January, 1966, to assist in this phase of work.

The project, it was determined, would be viewed as contextual or field research, and that data would be collected for three consecutive semesters beginning with the spring of 1966. This allowed the Center to be treated as an evolving, dynamic system. New courses, for example, were continually being adapted to dial access and old ones were being revised or discarded. The student population, moreover, changed from semester to semester.

The process of data collection was a pragmatic one. In time, it became obvious that some of the data to be collected would not be available, some that was being collected was not useful, and that other useful data should be gathered. These adjustments were possible within the framework of the methods being used and made the total study more useful.

Two categories of information about the Center were obtained. The first was the objective data. It is quantitative and was obtained from questionnaires, counts, and school records. All of the questionnaires were prepared by the Impact Project Staff with the exception of the College and University Environment Scales. Because of the need to begin in the spring semester, no validation data was generated on the locally produced instruments other than face validity. Other relevant facts about the instruments are given in the results.

Random sampling was used in all cases in which the entire campus population was not utilized. It was done by using a table of random numbers.

The second class of information can best be described as subjective data. Two sources of observations make up this category: (1) an official off-campus observer and (2) the faculty, staff, and student observers on-campus. Dr. Herbert Hengst, Department of Education, University of Oklahoma, was appointed as the off-campus observer. He made 29 visits to the campus over the three semesters. The observations by the on-campus personnel were obtained in questionnaires, interviews, and diaries.

In November of 1966 the Advisory Committee, along with the off-campus observer met with the Impact Staff of the college and reviewed the data collected to that point and the methods being used. Several aspects of the project were refined during the meeting and the changes were utilized in the data collection for the next two semesters.

After all of the data had been collected and summarized in appropriate tables, the Advisory Committee met again with the off-campus observer and the Impact Staff of the college in June, 1967, and reviewed all the data. The meanings and significances of the data were identified and are reported in the results section of this report.

CHAPTER III: RESULTS

Introduction

The impact of the Learning Center on the campus was observed for three consecutive semesters: spring of 1966, fall of 1966, and spring of 1967. The results reported in this section summarize the data collected during these three academic terms.

Because of the large amount of data being collected and the fact that it was obtained, on some occasions, from the entire campus community, there was some "questionnaire fatigue," but a good level of cooperation remained throughout.

To facilitate a comprehensive grasp of the results, this section of the report will be divided according to the following outline:

I. Report of Objective Data
    A. Amount of Use of the Learning Center
    B. Attitudes Toward the Learning Center
    C. Other Effects of the Learning Center
II. Report from Off-Campus Observer
III. Report from On-Campus Observers
    A. Students
    B. Faculty

I. Report of Objective Data

A. Amount of Use of the Learning Center

Two of the original nine questions were related to the extent of the use of the Learning Center: (1) To what extent are the new facilities utilized by the faculty? Are there generalizations to be made from observing which instructors and departments make greater or lesser use? (2) To what extent do students use the new facilities? Are there generalizations to be made from observing which students make greater and lesser use?

This section on use of the Learning Center is divided into three parts: occupancy and use of the library, occupancy and use of the carrels, development and use of instructional materials in the Learning Center.

1. Occupancy and Use of the Library. Since the college library occupies the first floor of the Learning Center building and is regarded as an important part of the total building complex, library data was considered an integral part of the study. In addition, there has been considerable interest in the educational world as to what effect a Learning Center with an abundance of carrels and tape recordings would have on library usage.

The percentage of the student body in the library is given in Table 1 and is an indication of its usage. The data was obtained by counting the number of students in the library each hour, on the half hour, for a sample school week.

The library has a seating capacity of 104 and the average number of students in the library during its total open hours was 19.34 or 18.60 percent of capacity. The highest occupancy counted was 41 or 5.82 percent of the total number of students enrolled at that time. There was an average of 2.69 percent of the student body in the library each hour for the three semesters. In addition to indicating the magnitude of usage, the figures on the percentage of the student body in the library also show that the number of students in the library is relatively constant. The tables in Appendix A show that this constancy holds from day to day across the week and from hour to hour within the day.

Table 1: Proportion of the Student Body
In the Library Monday Through Friday

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Total Number of Students on Campus	624	827	705
Percent of Total Students in the Library Each Hour	2.75	2.59	2.83

Table 2 shows the number of hours the average student spent in the library each week. These figures were obtained from student estimates using the whole campus population. The 5.98 for the spring of 1965 is prior to the opening of the Learning Center, and the decrease to 4.14 the following spring indicates the effect of the carrels on the hours a student spends in the library. The average number hours of library use per student per week since the Learning Center became available, determined by using the last three semesters, is 3.59 hours per week. Because of a larger number of people reporting in the fall, the lower fall average dominates the three semester average.

Table 2: Number of Hours Per Student
Spent in the Library in a Week

Spring Semester of 1965	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
5.98	4.14	3.44	4.04

The library circulation statistics were also gathered to determine what happened to the checkout of books. These are presented in Table 3. Since this information is available for the semesters preceding the opening of the Learning Center, it is possible to look at the "before and after" effects. The average number of two week books checked out per student per semester during the three semesters preceding the opening of the Center was 16.66. For the first three after the opening of the Center, the comparative figure is 23.13, an increase of 38.84 percent. The average for all six semesters is 20.17.

The reserve book record does not follow the same pattern. Before the Learning Center opened, it was 8.98 books per student per semester. With the Center it has been 8.61 with a six semester average of 8.78. Although this is a variation of less than one book, it is significant that the Center has not increased the use of reserve books as might have been expected.

Table 3 indicates that the library's moving into new facilities in the fall of 1965 did not cause the circulation to go up. Rather, circulation increased when the Learning Center became fully functional in the spring of 1966.

Table 3: Student Library Circulations
By Semester

	Fall 1964	Spring 1965	Fall 1965	Spring 1966	Fall 1966	Spring 1967
Average Number of Books Per Student on Two Weeks Loan	15.48	19.30	15.78	27.50	18.57	24.61
Average Number of Reserve Books Per Student	7.05	7.90	11.25	12.00	5.01	9.83

Table 4 gives the library circulation statistics for the faculty. For three semesters preceding the Learning Center the average number of books checked out by the individual faculty member was 14.12. For the three semesters with the Center the average is 16.53. The average for the six semesters is 15.44. The apparent difference in this case is due primarily to the 22.58 in the spring semester of 1967 when the library required faculty members to recheck all books they had out.

Table 4: Faculty Library Circulations
By Semester

	Fall 1964	Spring 1965	Fall 1965	Spring 1966	Fall 1966	Spring 1967
Average Number of Books Checked Per Faculty Member	14.83	12.80	14.66	17.40	9.39	22.58

For the three semesters in which the Learning Center has been in operation, then, there has been 2.69 percent of the student body in the library each hour. Each student spent an average of 3.59 hours per week in the library and checked out 23.13 two-week books and 8.61 reserve books per semester. The faculty members averaged checking out 16.53 books per semester.

2. Occupancy and Use of the Carrels. The second and third floors of the Learning Center house the study carrels and the next consideration of how the Center has influenced the campus relates to student use of the carrels.

Table 5 shows the number of students and carrels on campus for each of the three semesters of the project. As is evident from this table, the institutional policy is to provide a carrel for each student. It is assigned exclusively to him for the entire semester.

Table 5: Number of Carrels and Students on Campus

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Carrels	710	860	860
Number of Students	624	827	705

In order to determine what part of the student body could be found in the carrel section of the Center at one time, the number of people in the carrels was counted once each hour that the Center was open for a sample school week shortly after the mid-term of each semester. Table 6 is a summary of these counts. Of special interest is the constancy of the percentage of the student body in the carrel section of the Center. This constancy was maintained even though, as Table 5 indicates, the number of students on campus fluctuated as much as 32.5 percent from one semester to the next. When all three semesters are combined, the average percentage of the student body counted in the carrels each hour from 7:30 a.m.

to 10:30 p.m., Monday through Friday, was 11.36 percent. The high was 210 students or 25.39 percent of the student body at that time.

Table 6: Percent of the Student Body
In the Learning Center Carrel Section Each Hour
Monday Through Friday from 7:00 a.m. to 11:00 p.m.

Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
11.43	11.90	11.08

A daily record based on these counts is given in Table 7. It should be noted that the Friday count was substantially below that of the other days and significantly lowered the weekly average shown in Table 6.

Table 7: Percent of the Student Body
In the Carrel Section of the Learning Center
Each Hour 7:00 a.m. to 11:00 p.m.

Day	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Monday	12.79	13.80	13.61
Tuesday	13.29	13.37	12.93
Wednesday	11.65	12.80	9.86
Thursday	13.04	12.24	11.25
Friday	6.60	7.40	7.52

The hourly record of the counts used in Tables 6 and 7 is given in Appendix B.

A random sample of students also kept a log of their activity in the Center for a week. This log made it possible to determine the percent of the student body to come through the Center in an hour's time. This information is given in Appendix C.

The next source of data that indicates the impact of carrels on campus is the number of hours students spent studying. In a questionnaire filled out by the students each semester, they estimated spending 20.22 hours per week studying for classes and doing other outside work. For the spring of 1966 they said they averaged 19.44 hours per week, 21.00 hours for the fall of 1966, and 19.77 in the spring of 1967.

On an identical survey given in the spring of 1965, a year before the Center, students reported studying 16.37 hours per week. Hence it appears that they feel their study time has increased about four hours per week. Since students' logs of time spent in carrels show about three-fourths of an hour per week in listening assignments, there appears to be a significant increase in study time even beyond the added listening feature.

Table 8 reports the number of hours per week per student spent in the carrel section of the Learning Center. Two different estimates were obtained by two different methods each semester. In one case, each student present in a general campus-wide meeting was asked to estimate the amount of time he spent in his carrel per week. The number reporting was between half and two-thirds of the total student population. This is called the "student estimate." In the other case, a random sample of students was asked to keep a log of activities and times for a week. (See Table 8 for sample size.) This produced the second estimate called the "student log." Obviously the two figures vary considerably and the exact figure may lie somewhere in between. Part of the difference may be accounted for by the fact that the student log was made in the last half of the semester while more listening activities are usually scheduled for the early part of the semester. See page 56-b for further discussion of the point.

Table 8: Number of Hours Per Week
Each Student Spent in the Learning Center Carrel Section
Monday Through Friday

Source of Data	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Student Estimate	19.40	18.95	19.10
N =	333	596	435
Logged Time Kept By Sample of Students	9.12	8.42	7.01
N =	104	97	52

By using the logged time, it is possible to make comparisons between several categories of students. These are presented in Table 9. In addition, in indicating the impact of the Center on campus by showing how much time students spend in it, this chart also shows that all of the categories of students listed in the table spent close to the same amount of time in the Center.

Table 9: Number of Hours Per Student Per Week
Spent in the Learning Center Carrel Section

Class of Students	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Live on Campus	9.07	9.34	7.30
Live off Campus	9.35	5.07	6.37
Male	9.08	9.45	8.07
Female	9.17	7.33	5.96
Freshman	10.71	8.51	8.24
Sophomore	9.02	7.19	7.45
Junior	9.21	11.11	5.79
Senior	7.42	6.85	6.77

The student log also kept a time record of the activities in which the student was engaged while he was in the carrel. In order of the amount of time "logged," these activities were: studying notes, reading textbooks, doing written research, preparing oral or written reports, outside reading and listening activities. About thirty percent of the student's time was spent in studying notes and reading textbooks.

The facilities of the carrel section of the Center lend themselves to four types of student utilizations: using the conference rooms, moving through and about the Center (mobile), in the carrel and using the headset, and in the carrel and not using the headset.

Table 10 gives the percent of the student body involved in each of these four uses per hour Monday through Friday. The number of students involved is given in Table 5. The percent in the conference rooms is controlled by the number and size of the rooms. There are only three such rooms with a capacity of eight each. Since students use their carrels as "lockers" for storage of material between classes, there is always traffic in the area. Since the "mobile" category declined slightly, however, this may indicate somewhat less moving about in the carrel area. At the same time, the percentage using the headset showed a steady rise. The highest percentage is for those in the carrel and not using the headsets. For comparative purposes the library percentages are also included in this table.

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Table 10: Percent of the Student Body
In the Learning Center Per Hour Monday Through Friday
Using the Center in Selected Ways

	Spring Semester 1966	Fall Semester 1966	Spring Semester 1967	Average for three Semesters
Using Conference Rooms	.46	.52	.44	.48
Mobile	2.89	2.38	2.06	2.43
In Carrel Using Headsets	1.25	1.79	1.89	1.66
In Carrel Not Using Headsets	6.83	7.20	6.67	6.91
In Library	2.75	2.59	2.83	2.69
Total Percentage of Students in Learning Center	14.18	14.48	13.89	14.17

3. Development and Use of Instructional Materials in the Learning Center. Whether or not a student goes to his carrel and what he does when he is there is partially determined by what is available to him. Table 11 shows the number of instructional programs prepared by the OCC faculty. Most of them are programs used in the first two years of college work. In addition to these, four other programs were regularly offered: campus announcements, F.M. radio, tape recorded music, and a series of Learning Center demonstration tapes. This table also indicates the rate at which programs are being prepared.

Table 11: Number of Learning Center Instructional Programs

Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
14	18	24

The dial access system in the carrels makes it possible for the student to hear tapes in his own carrel. In order to inform the student of the tapes available to him, a weekly schedule of tapes was published. The schedule listed the tapes, the times when each was available, and what number to dial for each. Tables 12 and 13 show how the dial access capability has affected the course offering at OCC. Table 12 shows the percentage of the courses offered by the college which have audio tapes scheduled. These are courses, not individual sections. For example, English 113 is a single course, but has several classes of sections. The increases indicate how the use of the Learning Center is expanding in a way that greatly affects both teachers and students.

Table 12: Proportion of Courses
Offered Each Week With Tapes Scheduled

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Courses With Tapes Scheduled	12.36	14.12	16.47
Total Number of Courses Offered at the College	114	112	116
Percent of Total Courses With Tapes Scheduled	10.84	12.46	14.20

The dial access system has two capabilities for playing audio tapes: (1) on a schedule controlled by a pre-set time clock or (2) on dial-start with the tape starting the instant it is dialed. The time-clock arrangement is for large group listening and is designated as "group listening." The other arrangement is for tapes that have a low demand and is called "individual listening."

Table 13 reports the use of tapes when analyzed by the manner in which they were offered--scheduled or dial-start. When a course used the group listening arrangement it had an average of 2.62 tapes per week. When the individual arrangement was used, 3.86 tapes per week were employed. These are composite values obtained by pooling all three semesters. From the table it can be seen that the number of tapes each week per course for group listening has gone up each semester while the number for individual listening has remained relatively constant.

Table 13: Number of Tapes and Courses Scheduled Per Week in the Learning Center

Type of Schedule	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Group Listening Tapes	13.64	29.41	41.24
Number of Courses With Tapes Scheduled For Group Listening	7.43	11.18	14.00
Number of Tapes Per Week Per Course For Group Listening	1.84	2.63	2.96
Number of Individual Listening Tapes	38.93	33.76	39.12
Number of Courses With Tapes Scheduled for Individual Listening	9.93	9.47	9.53
Number of Tapes Per Week Per Course On Individual Listening	3.92	3.56	4.10

Another indication of the impact of the Learning Center on the campus is the uses to which the classes on campus have put it. (By class is meant each section of a course whether one or many in a semester. English 113, for example, is one course but had several classes or sections.) Table 14 contains a list of selected uses along with the percent of the total number of classes on campus using the Center. The proportion of classes affected is substantial as indicated in the last row of the table. The increased usage over the first percentages shown for listening to tapes, outside listening, and taped exercises seems to indicate a growing use of the Center as a place for the student to listen to tapes.

Table 14: Percent of the Classes*
Using the Carrel Section of the Learning Center
For Selected Purposes

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Listening to Lectures	12.84	32.69	24.54
Single Concept Films	0.00	8.97	2.45
Conference Room	6.08	1.92	4.91
Taped Exercises	7.43	20.51	15.95
Programmed Instruction	3.38	3.85	3.68
Outside Listening	15.54	16.67	24.54
TOTAL (Percent of total classes using Center in at least one of the above ways)	25.00	58.97	43.56

*The total number of classes each semester was 148 for the spring of 1966, 156 for the fall of 1966, and 163 for the spring of 1967.

Another area of activity in the Learning Center that indicates the extent of use is the number of calls made from the carrels to the tape decks on the dial-access system. These are counted on pegmeters as they are made. Table 15 gives the number of calls per semester. These figures show a decline in the number of calls per student since the opening of the Center. The reasons for this are considered in the discussion part of this report on page 56-b.

Table 15: Record of the Calls
Made in the Learning Center

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Calls	177,873	210,351	154,134
Number of Students	624	827	705
Number of Calls Per Student	285.05	254.35	218.63

Table 16 presents the number of calls for each student over an entire week. It indicates three things about the weekly pattern of placing the calls: (1) Saturday and Sunday are substantially lower than during the rest of the week, (2) in every case for Monday through Friday the number of calls per student has gone down, and (3) there has been a slight increase in the number of calls per full-time student on Saturday and Sunday.

Table 16: Number of Calls Per Student Per Day

Day	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Monday	3.85	3.59	2.72
Tuesday	3.53	3.50	2.54
Wednesday	2.82	2.82	2.07
Thursday	3.21	2.98	2.45
Friday	2.55	1.78	1.60
Saturday	1.32	.96	1.45
Sunday	.52	.67	.85

A record of the number of calls per student for each week of the semester is given in Appendix D.

In summary, 11.36 percent of the student body was found in the carrels each hour. The average student spent from ten to twenty hours per week in his carrel. There was an increase of about four hours in study per week over the time before the Learning Center. From 25 to 59 percent of the classes used tapes and an average student made 251.56 calls per semester.

The extent to which the faculty has put the Center to use in its teaching is indicated by the number of teachers using the Learning Center, the number of programs developed specifically for the Center, the number of tapes placed for student use, the proportion of the classes affected by the Center, and the way in which the Center has affected the teacher's time.

Table 17 shows the number of teachers who have designed their classes to use the Center in certain ways. The first four entries in the table indicate how the teachers conceive of the Center and the extent of their use. There does not appear to have been much of a change over the three semesters.

Table 17: Number of Teachers*
Asking Students to Use the Center in Selected Ways

How the Teacher Asked the Student To Use the Center	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Hear Lectures	11	14	11
Outside Listening	8	8	8
Reading	11	11	10
Do Taped Exercises	9	8	12
Use Conference Rooms By Discussion Groups	1	2	3

*The number of teachers on campus each semester was: spring of 1966, 35; fall of 1966, 36; spring of 1967, 39.

The number of instructional programs prepared by the Oklahoma Christian College faculty for use on dial access compared to the teaching staff is given in Table 18. The number of programs per full-time teacher has increased somewhat as has the number of tapes per teacher. Most of the tapes were produced during the summer when the teachers were given release time to prepare them. Table 13 on page 18 provides an analysis of the scheduling of programs and tapes.

Table 18: Number of Learning Center Instructional Programs And Tapes Prepared by the OCC Faculty

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Programs	14	18	24
Number of Full-time Equivalent Teachers	23.10	26.52	28.25
Number of Programs Per Full-time Equivalent Teacher	.61	.68	.85
Number of Tapes Scheduled Per Week	52.57	63.17	80.36
Number of Tapes Per Full-time Equivalent Teacher	1.64	2.38	2.84

Many of the teachers used the Center in their classes for special purposes even when they had not developed such use into a formal instructional program. The actual use of the Center, therefore, is much greater than the number of programs in Table 18 would indicate. Table 14 on page 19 shows the extent to which the teachers have utilized the Center for both the formally prepared courses and for special purposes.

There are indications that the Learning Center has affected the ways in which the teacher spends his time. Table 19 gives the change in the number of hours that the teacher who uses the Center spends in certain activities as compared with the teacher who does not utilize the facility. Most of these show a decrease over the three semesters. While it is still saving the teacher's time, this may indicate that the time saved is somewhat less than the teacher originally thought it would be.

Table 19: Hours Saved in Certain Selected Activities Per Week by Each Teacher Who Used the Learning Center

Teacher Activity	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Lecturing in Class in Person	2.50	1.55	1.85
Preparation of Lectures	2.83	1.82	1.08
Grading Papers	.67	.18	.31
Directing Independent Study	.37	.36	.23

B. Attitudes Toward the Learning Center

Three of the nine original questions relate to the general area of attitudes and points of view toward instruction, the Learning Center, and life on campus: (1) What are student and faculty attitudes regarding the contribution, the facilities, and media made toward the instructional program? (2) What effect does the use of the various teaching media have on the faculty member's conception of his role, his relationship to the students, his use of time? (3) Does the use of the various new media and the individual study carrels alter the student's life on the campus, his use of time, his attitudes toward study and teachers, social dormitory life, and his conception of the student's role in the learning process?

Data on the attitudes of the students and faculty toward the campus, the Learning Center, and other specific facilities and concepts were collected for each of the three semesters of the Impact Project. The material in this section is grouped largely on the basis of the instruments used to gather the data.

1. Survey of Students on Academic Program. Table 20 presents the opinions of students on four aspects of the academic

program. In these cases data was available for the spring semester of 1965--several months prior to the opening of the Learning Center. The last two semesters show a decided increase in the amount of work students feel they are expected to do and in the amount required to earn various grades. They obviously feel that the teachers are grading "harder," and expecting more of the student. Students also report that they are spending about a fourth more time in study activity than in the semester before the Learning Center opened. It is not possible to say that the Learning Center produced these changes since they were not observed in a controlled setting; but their occurrence is most easily explainable in terms of the Center and its impact on the campus.

To see how this has affected the grade point averages of the students, see Table 30 on page 38.

Table 20: Student Opinion
About the Academic Program at OCC

Opinion	Spring Semester of 1965	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Percent of the Student Body Who Feels that the Grading System at OCC is Too Hard	6.45	6.61	15.27	12.41
Percent of the Student Body Who Feels that the Teachers Generally Expect Too Much of Students	2.15	2.70	9.90	12.41
Percent of the Student Body Who Feels that More is Required in Classes at OCC Than at Other Colleges	25.18	24.92	38.99	35.45
Number of Hours Per Week, Estimated by the Student, That He Spends in Studying For Classes and Other Work Given	16.37	19.44	21.00	19.77

2. Cues Test. The College and University Environmental Scales Test was given to a random sample of students on the campus. The results are reported in Table 21. In two areas changes appear significant: scholarship and awareness. For an interpretation of this test and a discussion of its relationship to other data, see page 60. The community and propriety scales show the highest scores. These reflect, in all probability, the religious nature of the campus.

Table 21: Scores
On the College and University Environmental Scales Test
Given to a Random Sample* of Students

Scale	Spring Semester of 1965	Spring Semester of 1966	Spring Semester of 1967
Practicality	14	14	16
Community	23	22	23
Awareness	8	7	3
Propriety	21	19	21
Scholarship	9	4	5

*The sample of students consisted of 107 in the spring of 1966, 148 in the fall of 1966, and 123 in the spring of 1967.

The College and University Environmental Scales Test was also given to the faculty and the results are reported in Table 22. The community scale shows the highest scores, likely due again to the religious nature of the campus. The changes do not appear to be significant according to standardization data reported on the instrument. A comparison of Tables 21 and 22 showsvery little difference in the faculty and students in the way they view the campus.

Table 22: Faculty Scores Obtained
On the College and University Environmental Scales Test

Scale	Fall Semester of 1965	Spring Semester of 1966	Spring Semester of 1967
Practicality	16	15	14
Community	25	23	20
Awareness	8	7	3
Propriety	15	19	17
Scholarship	7	7	4

3. Student Survey on Carrels. The carrel is one of the most important facilities in the Learning Center. To determine how the average student viewed the carrel, he was asked to rank preferentially five different carrel arrangements for a college campus. The results of this campus-wide survey are given in Table 23. Arrangement "a" was first choice each time by a wide margin, "b" was always second choice and "c" was always last. Arrangements "d" and "e" were about equally preferred for third and fourth choices with only .12 of one rank separating them for the three semesters. There was, therefore, no important change over the three semesters.

Table 23: Student Ranking* of Five Carrel Arrangements**

Carrel Arrangement	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967	Average For Three Semesters
a.	1.18	1.31	1.36	1.30
b.	3.11	2.95	2.97	3.00
c.	4.20	4.04	4.00	4.07
d.	3.23	3.35	3.20	3.27
e.	3.22	3.34	3.46	3.35

*A rank of 1 was first choice; 2, second choice, etc.

**The five arrangements were:

a. A carrel for each student located in the library building.
b. A carrel for each student located in his dormitory room.
c. A group of carrels in the dorm where you can go to study and which are used on a "first come, first served" basis. That is, you would not be assigned to any specific carrel but would simply find a vacant one and use it as you had need.
d. A group of carrels in the library building where you can go to study and which are used on a "first come, first served" basis. That is, you would not be assigned to any specific carrel but would simply find a vacant one and use it as you had need.
e. A group of carrels in each department where you can study while working in that department and which are available on "first come, first served" basis as in "c" and "d".

In the same campus-wide survey for the information in Table 23, the student was also asked to rank, in terms of their importance to him, six features of the carrels. These rankings are given in Table 24. The first choice every time by a wide margin was that the carrel is a place to study "b". However, the degree of importance declined slightly the last semesters.

Choices "c" and "d" varied between second and third rank between semesters, but on the whole, "d", near to the library, turned out to be the second most important feature of the carrel. "A" was always the fourth choice; "f", fifth; and "e", sixth. As in the case of the carrel arrangements in Table 23, there were no changes over the three semesters except the very close exchange in second and third place of "c" and "d" in the spring semester of 1967.

Table 24: Student Ranking* Each Semester
Of Six Features of the Carrels in Terms of Their Importance

Feature	Spring 1966	Fall 1966	Spring 1967	Average Rank
a. Near classrooms	3.86	3.95	3.68	3.83
b. Place to study	1.73	1.94	2.03	1.91
c. Listen to lectures	3.65	3.26	3.17	3.32
d. Near library	3.02	3.22	3.19	3.17
e. Outside listening	4.72	4.56	4.64	4.63
f. Academic atmosphere	4.02	4.06	4.45	4.18

*A rank of 1 was first choice, 2 was second choice, etc.

4. Semantic Differential Scales. The most extensive sampling of campus opinion was done with a set of semantic differential scales given to both faculty and students each of the three semesters of the project. They were sent to all faculty members; 25 returned them in the spring of 1966, 18 in the fall of 1966, and 20 in the spring of 1967. A stratified random sample of students based on class and sex was used: 185 in the spring of 1966, 188 in the fall of 1966, and 175 in the spring of 1967.

The instrument consisted of 24 concepts, each of which was evaluated on nine different seven-point scales. This gave a total of 216 scales. Each of these scales offered the subject an opportunity to respond to the concept by associating it with two opposing words. The following examples demonstrate both the form of the questions used and the methods of summarizing the results.

CARREL

important _____:_____:_____:_____:_____:_____:_____unimportant

uncomfortable_____:_____:_____:_____:_____:_____:_____comfortable

quiet _____:_____:_____:_____:_____:_____:_____noisy

useful _____:_____:_____:_____:_____:_____:_____useless

unsuccessful _____:_____:_____:_____:_____:_____:_____successful

scholarly _____:_____:_____:_____:_____:_____:_____unscholarly

concentration_____:_____:_____:_____:_____:_____:_____distraction

convenient _____:_____:_____:_____:_____:_____:_____inconvenient

order _____:_____:_____:_____:_____:_____:_____disorder

The method demonstrated in Figure 1 was used in summarizing the results from each scale.

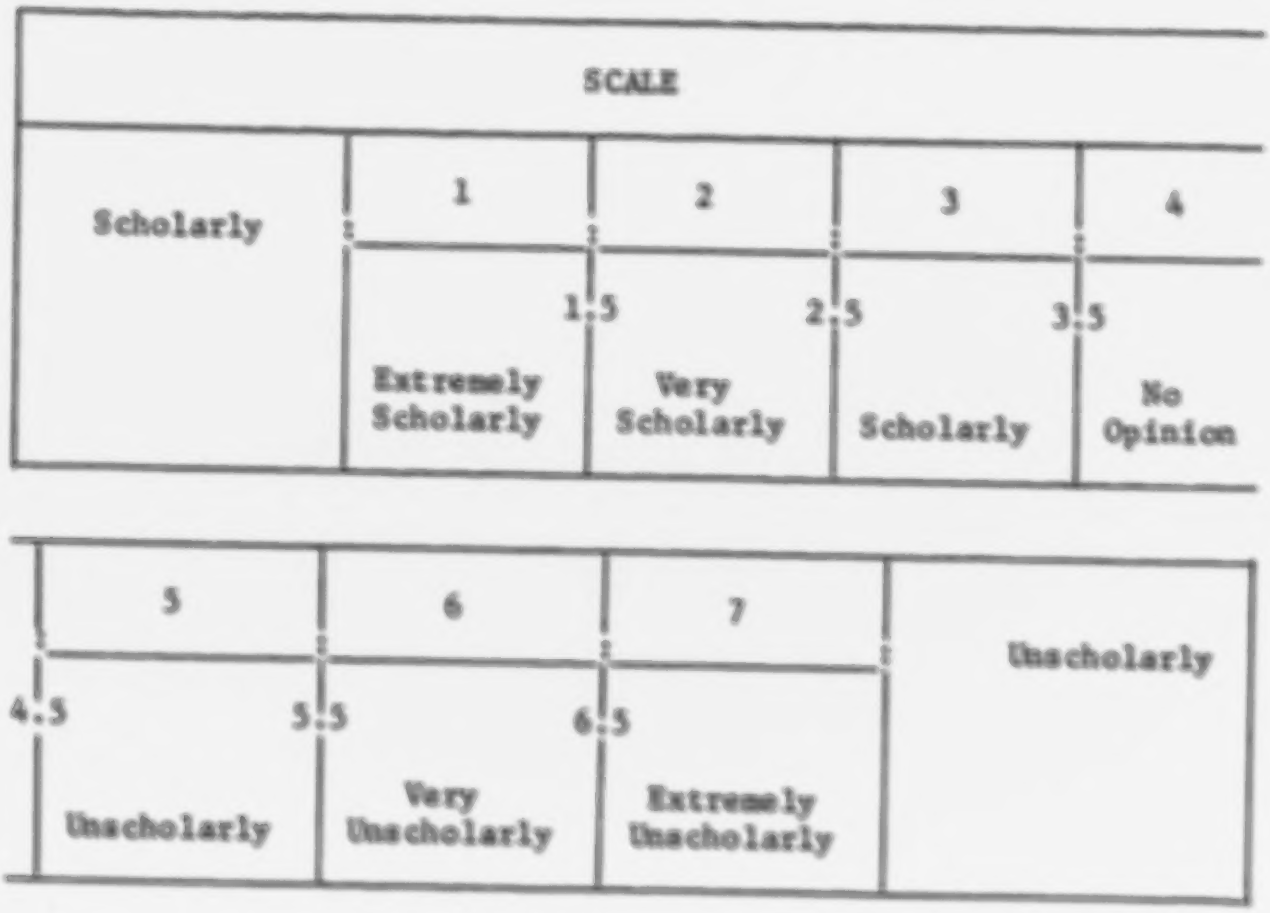
SCALE
Scholarly
1
2
3
4
1.5
2.5
3.5
Extremely Scholarly
Very Scholarly
Scholarly
No Opinion
5
6
7
Unscholarly
4.5
5.5
6.5
Unscholarly
Very Unscholarly
Extremely Unscholarly

Figure 1

The average rating on each scale was computed for each semester. These were then tallied according to the scale in Figure 1 and pooled for the three semesters. This was done for both faculty and student. Table 25 gives the results. This table indicates that neither the faculty nor the students had a particularly strong feeling about the concepts they were evaluating. Furthermore, they were very much alike.

Table 25: Frequency Distribution
Of the 216 Semantic Differential Scales
According to Opinion Categories

Group	No Opinion	Little Opinion	Great Deal of Opinion	Extreme Opinion
Faculty	59	118	39	0
Students	49	129	37	1

By using the scale in Figure 1 and taking a change of one unit along the scale to indicate an important change, there were only five changes in the faculty results over the three semesters and eight for the students out of a total of 216 items. Hence, there was no important change in overall opinion over the three semesters.

Some summary method for describing the results of this scale was sought even though the complete instrument along with the semester averages on each scale are given in Appendixes E and F. Table 26 contains a summary showing the eight out of the 24 concepts which deal most directly with the Learning Center. For the summary in Table 26, if at least two of the three semesters' ratings on a scale fell in the same rank, (See Figure 1), that degree of opinion was taken as describing the concept. If the rank was "4", "no opinion," it was discarded in the summary. If it fell into "3" or "5" the basic term alone was used as a description, while if the rank fell in "2" or "6" the adjective "very" was added and if it fell in "1" or "7" the adjective "extremely" was added.

The faculty and student opinions are almost identical. There were only two contradictions between the two groups. They were on the headset and dial being comfortable and the Learning Center being effective.

Table 26: Faculty and Student Opinion Expressed
On Eight Concepts Evaluated by Semantic Differential Scales

Concepts	Faculty Opinion	Student Opinion
Carrel	very important	very important
	comfortable	comfortable
	noisy	noisy
	very useful	very useful
	successful	successful
	very convenient	convenient
		orderly
Experimentation	very good	good
	very necessary	very necessary
	very beneficial	beneficial
	complex	
	more needed	more needed
	very constructive	constructive
	scholarly	scholarly
	exists on campus	exists on campus
		understood
Headset and dial	comfortable	uncomfortable
	interesting	interesting
	very useful	very useful
	simple	simple
	active	active
	scholarly	scholarly
	successful	successful
	very convenient	convenient
	like	
Learning Center	pleasant	pleasant
	noisy	noisy
	effective	ineffective
	very beneficial	beneficial
	scholarship	
	important	important
	very convenient	convenient
	like very much	like
Library	very convenient	very convenient
	easy to use	very easy to use
	very comfortable	very comfortable
	good	very good
	very useful	useful
		simple
	quiet	very quiet

Table 26: Continued

Concepts	Faculty Opinion	Student Opinion
Library, continued		limited
	organized	very organized
Supervision of Learning Center	very necessary	very necessary
	bad	unsuccessful
	very important	very important
	difficult	difficult
	complex	periodic
		active
Tape Recordings	good	good
	well-prepared	well-prepared
	interesting	interesting
	informative	informative
	creative	creative
	like	like
		long
Workbooks for the Learning Center	creative	creative
	useful	useful
	interesting	simple
	active	interesting
	organized	scholarly
		organized

5. Faculty Survey. In addition to those faculty attitudes reported above, additional data on faculty attitudes toward various educational media are reported in Table 27. Each medium was ranked on a five point scale; one indicates very effective; two, effective; three, occasionally effective; four, of little value; and five, of no value. Table 27 gives the average rating for each semester. No medium received a rating "higher" than 3.1. Most were near the effective rating. This says that the faculty felt that all of these media have been or can be effective in collegiate instruction. This opinion was fairly constant since no medium had a change on the rating scale of as much as one rating. However, there is an apparent trend in these statistics. Every medium with the exception of the first declined slightly in the effectiveness rating.

Table 27: Faculty Rating* of Selected Educational Media

Medium	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Live Lecture and Discussion	1.8	1.8	1.8
Recorded Lectures	2.4	2.5	2.7
Outside Lectures	2.3	2.8	2.7
Independent Study	2.4	2.4	2.5
Programmed Instruction	2.5	2.5	2.6
Student Assistants	2.6	2.7	3.1
Seminar or Small Groups	1.5	1.7	1.9
Personal Conference	1.7	2.0	1.8
Television	2.7	2.8	3.1
Motion Pictures	2.1	2.3	2.6
Tele-lecture	2.5	2.8	2.6
Single Concept Film	2.4	2.6	2.7
Workbook	2.4	2.5	2.6

*Rating Scale: (1) very effective, (2) effective, (3) occasionally effective, (4) of little value, (5) of no value.

C. Other Effects of the Learning Center on Campus and Activities

In addition to recording the amount of use of the Learning Center and attitudes toward it and related matters, the study has also gathered data on specific effects the Center had on campus life and activities. One of the original questions, for example, asked, "How do the new facilities and media affect certain technical and procedural aspects of the college's operation such as classroom use, space utilization, and scheduling?" Also included in this section are data on such items as grading, location of students on campus, and interest in the Center from off campus.

1. Distribution of Students on Campus. Since the Center has provided a place where a large segment of the student body not in class can be found each hour of the school day from 8:00 a.m. to 6:00 p.m. Monday through Friday, the total distribution of students on campus has been affected. Table 28 shows the percentage of the student body in the Learning Center carrel section, library, and class each hour. The carrel section and library reports are based on the hourly counts made during a sample school week. The class report is based on the class enrollments.

The Learning Center consists of the library and the carrel section. Thus, Table 28 indicates that 16.01 percent of the student body is in the Learning Center each hour. Hence, the campus is affected in that a large percent of the student body is found in one place on the campus. This table also indicates that from 8:00 a.m. to 6:00 p.m., Monday through Friday, 52.32 percent of the student body can be accounted for in three locations on campus each hour.

An hourly record of the percent of the student body in these three places is given in Appendix G.

Table 28: Percent of the Student Body
Located in Three Places on Campus Per Hour
(Average for the Three Semesters)

Learning Center (Carrel Section)	Library	Class
13.25	2.76	36.31

The percentage of the student body in the student center has also been affected by the Learning Center. Table 29 shows the percent of the student body in the student center for an average hour of the day. For the three semesters, the average is 3.91 percent of the student body in the student center per hour. Although no counts were made before the Learning Center was opened, it is reasonable to assume that the percentage of students in the student center would be higher if an average of 16.01 percent of the student body were not in the Learning Center.

Table 29: Percentage of the Student Body
In the Student Center Per Hour Monday Through Friday

Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
4.14	3.50	4.23

2. Grade Distribution. A significant change in student opinion toward the academic program was reported in Table 20 indicating a strong feeling among students that the amount of work required by teachers had increased. This change, however, has not affected the grade point average on campus as shown in Table 30. Since this information was available before the Center opened, five semesters are shown. For the two semesters combined prior to the opening of the Center in the spring of 1966 the campus-wide grade point average was 2.44 on a four-point system; for the two semesters following the opening the campus-wide grade point average was 2.44. Table 30 does show that the average for the spring semester is from .15 to .27 of a point higher than that for the fall semester. This cannot be attributed to the Center, however, for this same spring-fall difference likewise appears before the time of the Learning Center.

Table 30: Campus-Wide Grade Point Average
Based on a Four-Point System

Semester	1965	1966	1967
Spring	2.60	2.57	2.52
Fall	2.33	2.37	--

3. Classroom Use. Another facet of the campus that was significantly affected by the construction of the Learning Center was the number of classrooms used in a week. Table 31 shows the classroom use on campus was affected. The fact that an average of 20 less class hours had to be scheduled each week was important in the light of the number of classrooms on campus.

Table 31: Classroom Periods
Affected in a Week by the Learning Center

	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Number of Classrooms on Campus	21	24	24
Number of Classroom Periods Not Used Because of Learning Center Programs That Would Have Been Required Without It	11	28	21
Percent of Occupancy (Percent of Total Classes That Could Have Met)	45.89	45.26	48.39

4. Interest in the Learning Center from Off Campus. For a small, relatively unknown college, the interest from both a national and international standpoint was quite unexpected. Representatives from about one-tenth of all colleges and universities in the United States have been to the campus to see the Learning Center. Articles have appeared in many leading educational journals as well as in *Time*, which called the OCC Center "the nation's first wholly electronic learning center," and *Esquire* which called Oklahoma City "the new world center of education" because of the OCC Learning Center. A list of these articles is given in Appendix H.

Dr. Stafford North, Project Director of this study and Director of the Learning Center has filled numerous speaking engagements and consultantships relating to the Learning Center during the course of this grant. These have ranged from San Diego to Bermuda and from Boston to Guatemala City, and have included nine conferences or conventions of national stature. A complete list of these appears in Appendix I.

The chart below shows the total visitors to the Learning Center that have been registered. The large figure for the spring of 1966 semester includes the "open house." "Inquiries" refers to mail or telephone requests for information and the "Sound of Learning Units" to a demonstration recording and workbook which has been sold for $5 and now $6. The "slide-tape presentation" refers to a 15-minute audio-tape, color-slide presentation on the Learning Center which is available either for a loan or purchase. The number of loans and purchases shown does not include scores of times it has been shown to campus visitors and in off-campus presentations.

As shown on Table 32, dissemination of information about the Learning Center has been substantial.

Table 32: Dissemination of Information
About the Learning Center

Type	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
Visitors to the Learning Center	1007	367	284
Inquiries about the Learning Center	83	186	91
Sound of Learning Units	188	97	39
Slide-Tape Presentations	4	13 loans 13 purchases	26 loans 19 purchases
Number of Articles About Learning Center in National Journals or Periodicals	11	5	3

II. Report of Off-Campus Observer. (Dr. Herbert R. Hengst, Associate Professor of Education, University of Oklahoma

One aspect of the Impact Study, conducted in conjunction with the first two years operation of the Learning Center at Oklahoma Christian College, was the involvement of an off-campus observer. The study, designed to examine the impact of the introduction of a dial-access audio system and individual study stations (carrels) on the instructional activities of the college, emphasized the collection of formal data. It was thought advisable to engage a faculty member in a nearby institution to provide an informal validity measure through frequent first-hand contact with the project. The role of the observer was explicitly described by the Advisory Committee in a report dated July 26, 1965, as follows: "He (the observer) would visit informally among students and faculty, attend some meetings of faculty groups, suggest certain data to be gathered, keep a record of his observations, and...file a report giving his observations and analysis on the questions this study seeks to answer." This section of the Report, then, represents the findings of the observer.

In accordance with the general instructions, I (Hengst) visited the campus on 29 different occasions over the course of the two-year study, an average of slightly more than twice per month. In the course of my visits, I had the opportunity to confer monthly with the study staff, to attend five faculty meetings, to confer individually with staff and faculty on more than 75 occasions, to hold formal conversations with more than 50 students, including the officers of the Student Council, to listen to numerous instructional tapes, to visit several classes, to conduct six informal carrel-use surveys, to advise on data gathering activities, and, in addition, to participate in tours of the Learning Center by educators on three occasions. I was able to become well acquainted with or sensitive to the student body. The faculty and staff made every effort to facilitate my activities. The summary information that follows is designed to describe my observations in resume form.

A. Observations Regarding Student Attitudes

There were numerous evidences of a positive reaction to the Learning Center as a place to study. Carrels were highly personalized by students through the addition of pictures, mottos, schedules, study lamps, and other accessories as well as typical "treasures" of student life. They were also used frequently for both brief and extended periods of time for a "between-class" stop-over and concentrated study effort. The carrel areas also provided a ready meeting ground for students, and much socializing activity was observed. There was continual traffic in and about the carrel areas during the regular school day. Interestingly enough, this traffic and the noise it produced did not appear to interfere with those students who were involved in what appeared to be concentrated study effort. It should be mentioned, however, that students invariably commented on the noise level as a problem, but the most frequent comment compared the carrel area favorably with the dormitory room as a study station, even though there was concern evidenced about noise. Apparently the students found the carrel area less noisy as a study station than they did their rooms in the dormitory.

I noted one difference among students that deserves comment. During the first year of the study there was genuine excitement about the facility itself. Even upperclassmen, who had relatively little contact with the taped instruction, commented favorably consistently about the carrel as a study station. Students who were new to the college and had no experience with it prior to the Learning Center development, found the carrel and taped instruction to be definite plus factors. During the second year of the study, there was evidence that the novelty had worn off, and students appeared to be using the Center much as they would any other instructional tool. For instance, student comments were less uniformly favorable and more searching with regard to the proper use of the carrel and taped instruction. It should be added that most of the questions were directed at the nature of the instructional programs. I found little evidence of dissatisfaction with the carrel itself.

In summary, students were generally favorably disposed toward the Learning Center. The reservations they expressed to me dealt with the instructional programs made available through the dial access equipment. They liked their carrels, even though there was an additional (and mandatory) fee attached. But, as students generally do, they did not appear convinced about the value of the audio-taped instruction. Also, I noticed an initial high level of interest, undoubtedly associated with the novelty of the facility, that shifted during the second year toward an attitude that might be aptly characterized as "instrumental."

B. Observations Regarding Carrel Use Patterns

My observations concerned with the use of carrels by students took the form of simple counts of students at the study station and an attempt to classify the type of activity they were involved in. I conducted several such informal surveys during each of the two years. The following generalizations are based on those activities. It should be noted that I did not observe the use of the carrels during the evening hours.

I found that the average hourly occupancy rate (students in carrels) stabilized at about 12 percent. That is to say, 80 - 90 of the carrels were in use on the average. The peak use was customarily in the late morning or early afternoon hours. The number of students in the carrels who were using the dial access equipment varied from an average of 10 percent to a one-time high of approximately 35 percent. It customarily approximated 15 percent of the students in the carrels, or one percent of the student body. Of the other student activities, reading was by far the most frequently observed. A number of students were invariably studying in small groups, either gathered around one carrel or in one of the conference rooms adjacent to the carrel area. And there was almost always at least one group of students just visiting. Students were also observed typing reports, doing math and science problems, writing letters, and sleeping.

In summary, students appeared to be using the carrels and taped instruction in an "assignment fulfilling" pattern. That is to say, their use of the facilities appeared to be in a traditional student pattern, one of response to the requirements of the instructional situation.

C. Observations Regarding Faculty Attitudes

Approximately one-fourth of the faculty members of the college have been involved in the taped instruction program associated with the Learning Center (10 out of 39). My observations involved primarily this group. I visited regularly with several, periodically with all, and participated in several faculty meetings.

In addition, I listened to numerous taped lessons and visited several regular classes. My comments concerning faculty attitudes are based on these experiences.

On my first contact with the faculty, a summer of preparation had already passed. I noticed a genuine air of anticipation, a readiness to get on with the experiment, and a willingness to modify existing patterns. The faculty members who had developed taped programs did not indicate that they felt any negative pressures from their non-participating colleagues. The customary initial pattern of taped instruction/workbook use was to reduce a part of their planned classroom activities, usually lecture or drill material, to a taped presentation and assign students to listen to such tapes at scheduled times. Class time was thereby released, most frequently one of three sessions per week. There were other patterns of use also. In fact, diversity of use is probably the most consistent characteristic. The readiness of the faculty to participate and the variety of techniques developed to use taped instruction materials through the dial access equipment, represent two evidences of the positive and constructive attitude evidenced by the faculty.

The second year of the study indicated that this interest level had not waned. Several faculty members modified their programs on the basis of their first-year experiences. The instructional program use was expanded in the second year, as evidenced by the scheduling of more tapes for both individual and group listening assignments. In addition, conversations with the involved faculty suggested an interest in the development of materials to supplement the tape/workbook package. For instance, proposals to prepare 8 mm. film loops for use in single concept projectors were in the discussion stage during the second year activities.

Perhaps the most significant attitude shift observed during the second year was toward a more rational instructional planning pattern. It is reasonable to assume that the involved faculty members became more aware of the structure of their instructional activities, and, consequently, became more concerned with course development patterns.

D. Some Concluding Observations

1. Although the whole nature of the activity stimulated by the Learning Center development has been experimental, the

basic concerns of the faculty have been essentially instructional in emphasis. That is to say, I have not noted any of the involved faculty raising questions about the basic curricular pattern that the institution offers. Rather, the concern seems to have centered, quite understandably, on problems of utilizing the new "tool." It is reasonable to expect that more probing questions will emerge in the future, questions that might well lead to basic modifications in the traditional patterns. Such a development would be interesting to watch.

2. Public reaction has been generally affirmative. The facility and its program has attracted wide attention and interest. Such interest has reacted favorably on the new institution. For instance, faculty members have been stimulated to probe more deeply into their own instructional programs, with the expected positive results.

3. A major impact of the Learning Center experience at Oklahoma Christian College has been to focus attention on two significant factors: (a) the individual student and (b) the structure of the instructional situation. The individual student as both an individual and a student has been literally placed at the center of the campus. He is highly visible because of his individual carrel, and the carrel itself is a study station designed to make accessible the resources of the college for learning. Consequently, the institution cannot ignore either the needs of the individual student or the nature of the formal instructional programs to which he is subjected. Both are more nearly public matters now, and therefore the problems related to each assume a higher order of immediacy and urgency. They can no longer be swept under the rug nor relegated to the dormitory. This development cannot help but have a salutary effect on the institution, although day-to-day affairs might well be more stressful than in the past.

III. Report From On-Campus Observers

A. Student Observations

Several students were asked to keep diaries recording things they heard and their own impressions about the Learning Center. These diaries were kept from the beginning of school in the fall of 1965 through the school year. Unfortunately the carrels were not all installed when school began due to a manufacturing delay. Some of the diary comments relate to this delay rather than to the usefulness of the facility itself. There were three diaries which seem to tell a rather continuous story. Excerpts from these three are fairly typical of the comments in the diaries and are given in Appendix J. The following is a selected list of quotations organized chronologically to show the change in thinking over the year.

October 28--"A few carrels used. Some visiting. Still a little disorganized. Able to hear conferences in adjoining teacher's offices."

October 29--"Normal reaction to Learning Center is 'wait and see.' Seniors are inclined to be overly suspicious, while freshmen are inclined to be overly receptive."

November 11--"Many students feel the carrels should only be used as a last resort. They are afraid they might study if they go in it."

November 16--"Many people are commenting on how nice it is not to have to return to the dorms to get their books."

November 17--"R. K. says he will never use his carrel."

November 29--"Haven't been in carrel much; no one uses them."

December 6--"Students are beginning to take the place a little more seriously. There is still a lot of talking and parading--I guess when the new wears off, it will quit."

December 6--"I overheard a boy say he thought all the carrels were good for was to give the school another $30. But I understand he is not doing very good in his studies anyway."

December 8--"Still not many carrels in use."

January 11--"I notice more have moved into carrels now. They seem to be in constant use. But there still isn't much consideration for others. There are still large congregations around."

February 7--"It really is bad to study in here. Some are having three weeks tests and can't even concentrate. People are up and down the closer front aisles all the time."

February 15--"Now they're getting to respect the wishes of others more. L. M. said, 'We are at the peak of our learning.'"

March 14--"I see more people than ever at their carrels --using them. I overheard several people talking about the Learning Center and they were all for it, except they were still having a noise problem."

March 22--"A girl near me likes the Learning Center because it is close to the library and is easy to do research. Also, it is easier to find a place to sit!"

March 29--"Several students said that once they broke down and used their carrels, they really liked them, except for occasional disturbances. But it is still quieter than at the dorms."

April 1--"It is hard to keep from talking to others at their carrel. It is just too convenient to run over and visit a while when you need a break from your studies."

April 19--"I have seen more and more people really studying at their carrel."

April 25--"I have seen several carrels occupied, with typewriters going all day. I asked the students if they liked typing in here and they said it was a really good place to type."

May 5--"Most students make very good use of their carrels, but when there are three or four in one carrel, it is rather sure to be noisy. This is the one bad aspect of the carrels. The Learning Center competes with the Student Center for social mixing. On the whole, I am very pleased with my carrel. Now if I work properly and the teachers work hard, this could work into a great thing."

May 6--"I can find no one who objects to his carrel."

May 6--"I am enjoying my carrel. I can study easily in it and I find it very useful for a place to fill in between classes."

May 8--"The Learning Center has given rise to more student-teacher association and this has melted the barrier between the two somewhat. An open door is an invitation to come in and discuss particulars. This association, I believe, is very beneficial to the student's over-all makeup when he leaves the institution."

During the second year of operation (1966-67) periodic questionnaires were sent out to a random sample of 50 students as a substitute for the diary. The following are selections from these.

September 15--Suppose that you were considering transferring to another college, would the Learning Center encourage you or discourage you in staying at Oklahoma Christian College?

S. F.--"I can't imagine how horrible it would be to go to another college and have to study in the dormitory; I don't know what we did without it. The Learning Center was one of my chief reasons for coming to OCC."

W. M.--"It would encourage me only because of the publicity it gives the school, and not because of its personal value to me as a student. In many ways the Learning Center depreciates from the learning situation."

J. M.--"It would be very encouraging in keeping me at OCC because I find that with a place to study, I do far more studying than I did at York College."

A. N.--"It would have little effect on the decision. This would not be much of a factor. It is of course on the positive side for OCC because it allows a more seminar type of class session. If I were thinking about transferring, it would probably be because of some academic need I was unable to fill here."

October 27--Do most students like the Learning Center?

B. C.--"From those I've talked with--yes! Most of those here when dorms were the only place to study state that the Learning Center offers a great opportunity."

D. F.--"Yes. This facility is a great boost to the studying that we must do. It is convenient, comfortable, and easy to use."

S. F.--"Students haven't cultivated the realization that the carrel area is a part of the library."

B. H.--"Most students do like it, but too many like it because it is a place where one can visit with lots of people."

K. J.--"No. We feel that it is degraded in the way it is used. The tapes are overplayed in their importance. It could be really great if it were used in a better way."

W. M.--"Yes, but not for the right reasons. I do not mean to be sarcastic when I say this, but it is more of a social center than a Learning Center. Carrels are used primarily for listening to tapes or typing (work that doesn't require deep concentration or which cannot be drowned out by the other disturbances)."

B. R.--"Yes. The student feels important with a separate booth for himself to study in, and he feels as though the school has done something more for him than simply build a library with tables in it."

B. T.--"Yes, I definitely believe so. It is a place where you have everything available to you--library, books, tapes, teachers, and students. By students, I mean you can always contact one or leave a note in the carrel. As an officer in several clubs, I always need to find someone. I never study in the room, except for exams and sometimes late at night. Also, you can study with others in the conference rooms."

October 27--What do you think of the tapes and workbooks? Are they (better than), (same as), or (worse than) the conventional method of getting all the information from the teacher in the classroom?

A. B.--"I think the tapes and workbooks are better than the conventional method of teaching. I have more time than I have ever had before; thus, if I use my time wisely, I get more done."

D. F.--"With the workbooks, I get much more good from the tapes. Things are arranged systematically in the workbooks. This makes it easier to study. The main problem with the tapes is the instructors talking too fast for us to get the information that we must have."

K. J.--"I don't like the notebooks and tapes because I like to see a person when he is talking and if I can't, I get bored and don't pay attention. I don't feel that the tapes do very much good."

J. M.--"The tapes generally are better--I think--because they allow the student to hear the lecture more than once, and it gives him a choice of times to listen to it. However, I don't think the tapes can ever replace actual classroom teaching because there seems to be some interaction between the student and the teacher merely by the teacher's presence."

P. S.--"I believe it is better than the conventional method of teaching. There is nothing to take your attention away from the lecture, and it seems to me that more information is given in tapes than in classroom lectures. The workbooks are a great help in knowing what the teachers expect you to know."

November 8--From your observations so far this semester, how would you describe student activity in the dorms? How much studying is done in the dorm and at what time is it done?

B. C.--"Most studying done after 11 p.m. that I've seen. I'm not around dorms except at 10:30 p.m. to 7 a.m., so I could not give a good evaluation. By far, it seems that most of the studying is done in the Learning Center."

D. F.--"Just about the only studying that I know about in my dorm is for tests and then it is after the Learning Center has been closed or at the time when we must be in the room."

P. S.--"It seems from my own observations that the ones who study very much in the dorms are the upperclassmen. The reason is probably because they have studied for several years in the dorm and are not used to the carrels. Most of the studying is done at night from about 8 until 11 or 12 p.m."

February 13--Have you observed any changes in the way in which the Learning Center is being used in the last couple of months? If so, how?

A. B.--"The noise is not what it used to be; in other words, things are getting quieter as time goes on."

G. F.--"The excessive loud noises seem to be as bad as it ever was. Conversation is as it was; use for study has increased slightly."

J. S.--"The only change that I have noticed in the past few weeks is a reduction in some of the socializing around the carrels. Of course, it hasn't all stopped, but it is at a point which doesn't often keep one from studying."

B. Teacher Observations

The next set of observations are by the teachers in response to questions that were asked them over the period of the Impact project.

October 6--Has the Learning Center improved your teaching?

1. "Probably not. Perhaps allows me to do the same quality job with more students."

2. "Yes, saying same things in fewer words."

3. "Has not improved my teaching ability (unfortunately) but it has provided material I could not have given, for example, value judgments."

4. "Yes. My material is better organized and better thought out."

5. "Yes, in that it has made me more versatile in planning and in presentation."

October 6--Has your role as a teacher changed since the Learning Center went into use? If so, how?

1. "The Learning Center has encouraged me to look for more possible ways of improving my teaching through the use of the Learning Center's facilities."

2. "More class discussion."

3. "More careful planning of material and setting up of objectives. Much broader use of media than before. More careful evaluation than before--both of students and course."

4. "Instead of covering everything in freshman English, I have a carefully defined role as a composition teacher. Much of the routine paperwork (homework and tests) is taken care of somewhere else in the system, leaving me to concentrate on the writing and the individual student."

October 6--*Do you think that the Learning Center has changed what is expected of the student in the amount of work to be done and/or the quality of the work expected of him?*

1. "Of course, I can only speak for myself, but I know I expect more now than I did previously."

2. "Yes, I believe that a better quality of instruction has resulted, and that the work expected of the student is of a higher quality and more meaningful."

3. "I think it has increased both amount and quality of work."

October 6--*Several centers similar to what we have here at OCC have turned out to be failures on other campuses. They were so from the very beginning because they were never significantly used. Obviously this is not the situation with us. Can you identify any specific things that have contributed to our success?*

1. "Time to prepare materials with only gentle pressure as to deadlines is the first reason for our success. The second is due to the cooperative spirit among the faculty and a desire to do a day's work for a day's pay."

2. "(1) Time to prepare materials. (2) Leeway to experiment with new class organization."

October 6--*Please give your evaluation of the Learning Center as a whole. Be specific if you wish.*

1. "I have found the Learning Center a most valuable aid in teaching a foreign language. Not only do the students

have the opportunity to listen to French anytime of the day, they are also able to hear different speakers. Thus they are able to understand French spoken by a variety of people. They could also tape and listen to themselves. Also films in the language were shown and added much to their knowledge of the people. The Learning Center is a necessity for language teaching."

2. "A worthy project, particularly from the standpoint of changing student study habits. In the process of time the Learning Center idea should become an integral part of most colleges and universities."

3. "The facility is valuable because it signifies our interest in study by providing students with a place to work. I think we have used it less effectively than we can, but I am sure we will not do more unless we have time to develop courses which utilize the Learning Center."

4. "Students seem not to take the function of the Center seriously. There is entirely too much noise, horseplay, and "parking." In principle, I think that it is good."

5. "It has been quite helpful in English 113 and 123. We have been able to spend far more time in valuable class discussions since the lectures are taped. Our students like the course they say."

6. "It is working. We are placing more responsibility on the student. We are using our own time more efficiently to generate ideas rather than to recite background information."

CHAPTER IV: DISCUSSION

This chapter of the report analyzes and interprets the results reported in Chapter III and gathers together findings on similar topics. The principal subjects covered are: the library, the carrels, preparation of material by faculty members, the academic tone of the campus, and other observations.

I. Library

A. Library Seating

In planning the library portion of the Learning Center to accommodate a student body of 1,000, the seating capacity was reduced from the often recommended 25 percent of the student body to about 10 percent since every student was to have his own carrel elsewhere in the Learning Center. The 104 places provided proved not only to be adequate but is probably more than necessary. The largest percentage of students found in the library at any one time was 5.82 percent of the student body and the average occupancy was only 2.69 percent.

The study also shows that the number of hours per student spent in the library decreased from 5.98 hours per week to 3.44 hours per week. This student estimate of time spent in the library indicates that the provision of the carrels does decrease the hours spent in the library proper by the students even though the total amount of study time went up. This supports the conclusion in the previous paragraph on the amount of seating required.

B. Use of Printed Matter From the Library

One of the questions most frequently asked about the use of tape recordings and other such media is "What effect will this have on the use of books?" The answer in the Oklahoma Christian College program is that book usage is more, not less. This is likely due to several circumstances: (1) with the student's carrel in the same building as the library, he passes the library doors several times a day which encourages greater use; (2) some of the courses have been revised in such a way that greater use of printed matter as well as the use of tapes and other media are built into the programs; (3) the general thrust of the Learning Center has been to place greater responsibility on the student for his own learning, thus requiring the student to utilize the library facilities "on his own" more than before.

It would still appear that the use of the library is quite related to the type of program and the particular assignments or responsibilities given students to use it. The conclusion that students, like most people, do the things that they have to do in a given situation seems warranted.

II. Carrels

A. A Carrel for Each Student

One of the unique features of the Oklahoma Christian College Learning Center is that it provides a carrel for each student enrolled. Since this is the only Learning Center making such an approach to the use of carrels, this has been a point of particular interest both from on and off the OCC campus. A number of the results in this study bear on this particular point.

1. Student Preference. On the forms submitted to students during each of three different semesters they were asked which type of carrel arrangement they preferred. As shown in Table 23, there was a strong preference for an individually assigned carrel in proximity to the library. The second preference, running well behind, was an individually assigned carrel in the dormitory area. The availability of carrels on a "first come, first served" basis was definitely not the preference of the students. While one might expect that the students would select this type of arrangement since it was the one with which they were familiar, the preference was decidedly favorable to the one carrel per student arrangement.

As noted in the opinions of the students, a number of students commented that they like to have a place where they can keep their own materials and with which they can identify personally. Perhaps no one would object to students having their own carrels. The real question, of course, is one of economy and financial feasibility.

2. The Cost of a Carrel for Each Student. The overall cost of all the electronic equipment and the carrels themselves when divided by the total number of carrels gives an average cost

of $400 for each student to have his own carrel. The electronic equipment for 1,000 students amounts to about $300,000 and the carrels to about $100,000. To this may be added the square foot cost of the space required for each carrel with its access, 24 square feet per carrel. At the building cost of $10.50 per square foot this would add another $252 making a total of approximately $625 per carrel.

This cost must then be compared with the savings which result from the carrel arrangements as well as the additional values which a carrel for each student provides. A number of savings accompany the provision of a carrel for each student.

a. Less seating space has to be provided in the library. It would appear that with a carrel for every student seating in the library on the order of 5 percent to 7 percent of the student body would be adequate.

b. There is a definite saving in classroom space required. As shown in this study, a total of about 20 fewer hours per week were scheduled in classrooms because of activities designed to be done in the carrels. Assuming the percentage of space utilization at about 50 percent, this means that the college can conduct the same instructional program with one less classroom at an average cost of about $12,500. It should be recognized, of course, that the saving in classroom space is being measured at a time when the program is only a little over a year old. If the trend toward developing instructional programs with fewer class meetings continues, it is reasonable to assume that this figure could be considerably increased.

c. Another area of savings with a carrel for each student is in student center construction and in other types of student lounging space. While no pre-post comparisons were possible, it is certainly safe to assume that with 11.36 percent of the student body in the Learning Center each hour, the number of students in the Student Center at any given time would be less.

d. Still another area of savings is in dormitory construction. Less study space is needed in each room since each student has his own study station elsewhere. This feature not only affects the size of the room, but also the kind of furniture which must be provided. The OCC experience has not yet been lengthy enough to have had sufficient effect on dormitory construction to make an exact conclusion possible. A reasonable estimate, however, would indicate a savings of near $150 per student in furnishings and floor space.

e. Still another saving effected by the use of tape recordings and filmed media made available through the Learning Center is the expenditure of faculty time. This study reports that over the three semester period, all teachers using the Learning Center for any purpose estimated an average saving in time of five hours a week. This figure actually gives little indication of how much might be saved if the program were more fully developed. The college does, however, operate at a 30 to 1 student-to-faculty ratio and believes that the ability to operate satisfactorily at this level or above is due in part to the Learning Center. Using only the five hours a week per teacher as a rule of thumb, this would mean that for each eight to ten teachers on the staff the total number of teachers required could be reduced by one. With a full-time teacher equivalent of approximately 25 currently at OCC, this could mean a saving of about three teachers. If these were paid an average annual salary of $9,000, the annual saving would be $27,000. Such an amount annually would certainly make a substantial contribution toward the cost of providing a carrel for each student.

Of course, one would wish to raise the question of whether or not these savings could be provided in a less expensive way than providing a carrel for each student. There are certainly less expensive ways to provide some of the advantages of the carrel than to provide one for each student. This study, for example, has shown only one-fourth of the carrels occupied at peak-use periods. At the same time, however, the above figures indicate that there are offsetting financial advantages which make the arrangement more feasible than might at first be thought. In addition, there is the possibility of charging a carrel fee as Oklahoma Christian College does to an extent of $30 a semester for the added benefits and convenience received by the student. The students have generally accepted this fee as reasonable although there have been occasional complaints.

While other carrel arrangements have their advantages, the students have shown a preference for having their own carrel, and to some, it has been an encouragement to study as well as a convenience in providing a "base of operations" for their academic life. Moreover, it is good psychologically for a student to have his own carrel so that he may do most of his studying in the same setting.

This whole question, of course, needs study over a longer period of time to determine the extent to which a carrel for each student is justified both in savings elsewhere in the program and in benefits to students' learning. The number of carrels empty at any given time must be weighed against cost, effectiveness, and personal advantages to the student.

B. Student Use of the Carrel

The number of students using the carrel section of the Learning Center appears to indicate that the carrel pattern is generally attractive to the students. An average occupancy of 11.36 percent of the student body from 7 a.m. until 11 p.m. indicates a reasonable amount of use on the part of the students. Actually there are reasons to believe that the usage is even higher than this figure would indicate. When counting students once each hour, as was done in the case of this particular figure, the count does not reflect the turnover which takes place within the Learning Center in a given hour. It is likely that if one were to count at the beginning of the hour and at the end of the hour, he would find the number of people about the same, but they would not be the same persons. A reasonable estimate, therefore, would place 15-20 percent of the total student body making some use of their carrels during a given hour in the prime-use periods of the day. (See Appendixes B and C.) It may also be worthy of mention that the counting and the student logs were kept during the last half of the semester, while in fact more tapes, the study has shown, are scheduled to be heard during the first part of the semester. This may account in some degree for the difference between the student estimates of how much time they spend in the Learning Center which approached about four hours a day, and the amount of time indicated on the student logs which is nearer two hours per day.

It should be noted also that the number of calls on the system have been significant with an average number of calls of 231.56 per student per semester over the three semester period.

It will be noted from Table 15 that the average number of calls per student has decreased during the three semester period and that may be somewhat surprising in view of the fact that the number of programs available has increased. It should be noted in interpreting this particular data that the total number of calls includes not only calls made by the students but those made by visitors and by those checking out the system for correction of problems. Some of these non-student calls were considerably heavier during the first semester of operation than they have been later. There also may have been a "novelty" factor at the beginning which has somewhat subsided. It should also be noted that the growth in the student body has been at the upper-division rather than the lower-division and most of the programs that have required tapes have been at the lower-level. When these factors are all considered, it would appear that the number of calls per student has been sufficient to indicate substantial student use of the Learning Center.

III. Preparation of Materials by Faculty Members

A. Attitude of Faculty

The data included in other sections of this report clearly indicates a favorable faculty attitude toward the Learning Center and the types of learning experiences made possible. Although this is due primarily to the teacher's own personal response to the situation, there are a number of factors which contributed in some degree to this attitude.

1. The faculty members had a part in planning the facility and in the decision to proceed with the Learning Center. Faculty committees helped in designing the building and the carrels and many teachers were involved in the general discussions on the possible values which this type of instruction would offer.

2. A pilot project was carried out by Dr. Stafford North which worked successfully and which provided a model for study by others interested in developing their own programs.

3. Campus personnel were available for assistance to those working on programs. These services included counsel on teaching methods and technicians with necessary equipment for recording and printing material desired by the teacher. An effort was made to simplify, insofar as possible, the teacher's work in materials preparation. Recording studios were available offering as much help to the teacher as possible. While more might have been done, teachers were relieved of enough of these details to encourage them to attempt something new.

4. Off-campus personnel were also available to teachers. On three occasions, three-day seminars were held on the OCC campus with off-campus consultants brought in to work with faculty members. In these seminars the faculty members participated in large

group, small group, and individual sessions with the experts. In advance of the seminars the teachers developed proposals for new instructional approaches so that the off-campus personnel could react and supply ideas. This process not only gave the teacher something specific to work toward in developing a proposal, but also gave him the advice of a respected educator and a resulting confidence to proceed.

In addition to the seminars, teachers often were provided the funds for using consultants while working on a particular program. Sometimes they brought the consultant to the campus and occasionally they visited the consultant elsewhere. Some teachers even traveled in connection with the preparation of materials: a drama teacher went to New York and a government teacher to Washington.

5. A supply of catalogs and indexes were also kept available to teachers working on materials so they could find, as easily as possible, material already available which they might wish to obtain for review. These included the Educational Media Index as well as catalogs from film, recording, and printing companies and materials from other schools.

6. The provision of release time for teachers to work on preparing materials was undoubtedly the most important of all factors. This gave the teacher more time than he had ever had before to prepare a course, if he was willing to work some new approaches into it. This was especially an encouragement to teachers during the summer, since it provided employment by the college which they might not otherwise have had.

7. The attitude of the administration should also be mentioned as important in the faculty's favorable reception of the learning center approach. Not only were the President and the Dean of Instruction actively involved in the process of developing the concept and in encouraging teachers, but they were willing to support the teachers in their efforts at producing new materials without being overly prescriptive in terms of the outcome.

8. The timing between the construction of the Learning Center and the development of materials was also an important factor. The Center was scheduled for use in September, 1965, and a strong effort was made to have materials available for use in the Center at the time of its opening. The first campus seminar for faculty was held in January of 1965, and ten teachers were given release time during the summer of 1965 to prepare materials.

Consequently, by the time the Center was ready for use materials were also ready. In this way there was no awkward period after the Center opened when the whole campus community was made to wonder whether it would be used and whether the faculty would accept it. By having a sufficient amount of material ready at the start, a general aura of success and acceptance was developed from the beginning.

B. Uses by Different Departments

Although different departments have made differing amounts of use of the dial-access listening system, it does not appear that the arrangements at Oklahoma Christian College suit any particular subject area better than another. Nor does it appear from the experience here that there are any areas which have no use for such a facility. The variations in use among departments which have occurred appears to be more a function of the time and circumstances of the teachers and to some extent of their imagination in discovering ways to use the Center rather than a function of the subject matter itself.

It does appear, on the other hand, that some types of courses might have more use for the Center than others. Skill building courses, courses in which the student must master specific information, and courses in which sound can play an important role appear to have the greatest use. The more advanced courses which require special development of insight tend to use the recordings more as an added resource than as a means of drill or dissemination of information.

IV. The Academic Tone of the Campus

One of the changes which appears to have come about on the campus during the time of the establishment and early use of the Learning Center has been an increase in the amount of work expected of students. This is reflected both in teacher comments and student surveys reported in Chapter III. As faculty members revised courses and planned new programs, it appears that they asked more work of the students. The feeling of the students that more is required of them may, however, be due in part to the fact that they are more responsible for doing work on their own than they had been before. One might naturally tend to feel that a course required more when a greater responsibility is placed on him.

At the same time it should also be recognized that the college has been making an effort to improve its academic standing and to be more challenging to students. Within this kind of atmosphere it would be expected that as teachers revise their materials, they would tend to revise them toward greater requirements. Had the material been prepared in the atmosphere of attempting to reduce requirements, then it is possible that a different result would have been observed.

Figures reported in Table 22 also show that the students consistently have estimated that the amount of time they have spent in studying has gone up. The figures suggest an increase of approximately 20-25 percent in student study time. This increase indicates that teachers may indeed be asking more of the students. It would also indicate that the convenience of a better place for study has encouraged students to spend more time in study.

While the amount of work required has apparently increased, the students have not declined in their grade point averages. There has been an unusual consistency in the grade point average over the semesters prior to and immediately following the introduction of the Learning Center. This would seem to indicate that even though a greater amount of work is being required, the students are still performing at the same grade level. It might be hoped that with the facilities provided through the Learning Center that student grades could be improved. This may eventually be the result, but such has not been the case to this point.

The results of the CUES test appear to be somewhat in conflict with the other data gathered on the academic atmosphere. The CUES test administered both to faculty and students shows a decline in the estimation of campus scholarship. It is worth pointing out, however, that the CUES test does not actually measure the scholarship level of the campus; rather it measures the attitudes toward the scholarship level. This may indicate that while the level of scholarship has not decreased, both faculty and students have become more aware of what good scholarship is through the Learning Center efforts. This could have resulted in their lowering the rating which they give the college simply because they are now more sophisticated in their judgment. The full results of the CUES test are given in Appendixes K and L for those wishing to study the outcome of specific questions.

V. Other Observations

Since one purpose of this study was to provide information of use to others interested in utilizing various new media, there are some matters not mentioned elsewhere, which should be included. Although some of these observations are only indirectly related to the data reported in Chapter III, they are useful, nonetheless, to those who may be considering either new programs or new buildings.

A. The Uses of Recorded Instruction

During the period covered in this study, there has been some shift in philosophy about the use of recordings for instruction. At the beginning the general point of view was one of using recordings as "substitutes" for class meetings. The teacher simply put "on tape" what he would have said in certain class meetings. While this approach was found to have some value in allowing the teacher to meet with the students fewer times and still provide them the opportunity to learn course material, it did not recognize sufficiently the unique instructional values of the various media involved.

A classroom situation that brings a teacher and a group of students together face-to-face has certain special qualities which a recording cannot duplicate. The classroom situation, for example, allows for interaction, direct response, stimulation, and dialogue which are not possible by recording. When the classroom session is developed to capitalize on these qualities, as, unfortunately, is not often the case, the classroom session is not truly duplicated by a recording.

At the same time, a recorded instructional opportunity has certain qualities which the live classroom situation cannot provide. Particularly is this true when the recording is accompanied by worksheets designed to elicit student response and participation while the recording is being heard. Students can work with material, through this medium, as a means of mastering many types of material.

In addition, since a recording can be replayed, it offers certain unique possibilities: (1) a student can use it on his own time out of class; (2) it can be heard as many times as necessary; (3) it can be used without the teacher's presence; (4) a teacher can spend considerable time in preparing it since it will afford many hours of instruction and can be used in many successive terms.

Another unique quality of a recording is that it can guide students through learning experiences in a more personal way than written materials alone can do. The student can hear the voice of his own teacher "walking" him step by step through a problem sequence or assisting him to fill out charts, maps, diagrams, drawings, and other types of material. The recording also allows a student's eyes to remain fixed on a drawing or photograph while it is explained to him by voice, thus avoiding the shifting back and forth between picture and text as would be necessary in printed materials.

The recording can, in addition, utilize non-vocal sounds such as music, sounds of certain localities, or even "sound effects" when some special effect is needed. It can bring poetry, drama, and other literature performed by excellent artists. Recordings can also bring to the student the voices of experts in various fields or bring him the sounds of an important event exactly as it occurred.

In sum, the use of recordings, made easily available to students through the OCC Learning Center, began as a "substitute" for certain class lectures, but further use has led to some revision of this approach. Now recordings are viewed more for the special opportunities which they afford while allowing the classroom situation to contribute what it is especially suited to do.

It is still believed, of course, that there is nothing magic about three hours of class meetings a week. By the use of various other media, such as recordings and independent study, the number of class meetings may indeed be reduced, particularly if class sessions are utilized as an opportunity for interaction and dialogue between students and teacher rather than for disseminating information.

B. Purchase of Electronic Equipment

Since the college has now purchased about $400,000 worth of carrels and electronic equipment there are some observations on purchasing procedures which would be worthwhile to others.

1. Know what the equipment is needed to accomplish. Even with the current state of the art, electronic equipment can achieve amazing things. It is easy, especially for the teacher or administrator who is not an electronics expert, either to purchase more than he needs for a job or to get equipment which can do marvelous things but not what he truly needs. The more clearly the planned usage can be defined, the more likely the proper equipment can be purchased. The OCC staff went through several

months of deciding just what its needs would be and this proved valuable in getting the system needed.

2. Utilize expert help. OCC employed an outside engineering firm to serve in a capacity with the electronics similar to what the architects did with building construction. This proved to be a most beneficial move and allowed specifications to be written on which electronic firms could bid equally. There are now some more or less standardized packages of electronic equipment for audio/video playback on the market and if one of these can meet a school's needs, the requirement for outside consultants will be minimized. Even then, however, one may not be certain that this package will meet his needs unless he has technical advice that may not be available on his own staff.

3. Purchase a flexible system. Since the entire area of educational media is moving so rapidly, no one can know what his needs will be in a few years. The system selected should, therefore, meet the present and projected needs but it should be "open ended" so that both the size and the function may be changed. The cost of this expansion should be one of the criteria in equipment selection as well as the initial cost.

4. Have a clear understanding on installing equipment. Not all companies do an equal job of installing equipment, and the nature of the installation may well determine how successfully the entire operation functions. Are wires left unnecessarily exposed and are they stretched across "walk space?" Are racks neat and uniform? Are the various functions of the operator conveniently located so he may move easily from one to the other? Are quality controls run by an independent observer to insure that the system meets the specifications for crosstalk, noise levels, frequency response, and other technical features which should be in the specifications? Is the date for completion clearly set forth in the contract with appropriate safeguards for the school if this date is not met? Does the company have a reputation for meeting its schedules and agreements? Are other users pleased with the installation the company has made in other places?

5. Consider maintenance. Different types of electronic equipment require different amounts of personnel, even for equipment performing the same job. In addition some uses require more personnel to operate and maintain equipment than others. One should be certain, therefore, that he has selected equipment which is as maintenance-free as possible and that he has considered the maintenance required before deciding on the

functions to be included in the system. Video systems, for example, require much larger operational and maintenance crews than audio only. One should, therefore, determine whether the additional advantages video gives his program will be worth not only the extra initial cost but the extra cost of operation and maintenance as well.

CHAPTER V: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This section of the report summarizes the more important conclusions and implications of this study and presents recommendations for future research.

I. Conclusions and Implications

A. Although the process is by no means simple, a college can transform itself from a traditional orientation to one of extensive use of new media in a period as short as two years. Before embarking on the learning center project, Oklahoma Christian College was certainly traditional in its teaching program and its faculty members were trained under the commonly used methods in higher education. A few projectors and recorders were to be found on the campus and a few rooms were equipped for projection.

Within a period of two years, however, the picture had been completely changed to include large scale uses of such instructional media and approaches as recordings with workbooks, a wide range of class meeting patterns, single concept films, independent study, programmed instruction, behavioral objectives, and individual carrels for each student. And in terms of attitudes, the faculty and students are happy with the change.

While there are, as indicated in this study, exceptions to these generalizations, the data gathered in this study shows that most of the teachers have used some new approach to instruction, that as high as 59 percent of the classes in one semester used the Learning Center in some way, and that the average student used the new facilities of the Learning Center from ten to twenty hours a week.

Of course, the process of utilizing new approaches has just been begun, but there has been a significant beginning on a campus-wide basis. Pages 57 to 59 outline some of the steps utilized in this process of change.

It should also be noted that while the usage of media on the campus has changed considerably, the attitude of the faculty toward the effectiveness of various media has changed very little. (See Table 27.)

B. While the provision of a carrel for every student is not the least expensive way to provide carrels nor is the utilization figure of a maximum of 25.39 percent occupancy at a given time particularly impressive, the experience so far indicates that there are some offsetting cost factors which may be weighed against the cost of giving each student his own carrel. On the basis of these offsetting costs and the special values of this plan, one may decide whether such an approach is feasible for a particular situation. Pages 55-a to 56-b present additional details on this cost analysis.

It is also of importance to note that there was a decided student preference for a carrel for each student over carrels on an unassigned basis as well as a decided student preference for carrels in the library rather than the dormitory area. (See Table 23.) While this choice might vary from campus to campus, this opinion based on a survey of several hundred students is worthy of note.

C. The tape-recording medium, especially when used with an accompanying workbook, can make a useful contribution to the instructional program in a number of fields through a wide range of uses. No academic area was found to have no use for the type of facilities and media described in this report, but particular instructional functions, to which this medium is suited, can be utilized in all areas of the curriculum. Tape recordings can be especially useful in disseminating information and in assisting students to master it. They are also of particular value in presenting various types of resources and illustrative material. The use of recordings also provides flexibility in many ways since they can be played as often as necessary without the teacher's presence. Additional information on the use of recordings may be found on pages 21 to 25.

D. In the process of moving to the use of the Learning Center and the associated programs, students at OCC increased the number of hours a week which they spent in study time. Before the Learning Center was built, a survey of students produced the estimate of 16.37 hours a week of study while the three semester average after the use of the Learning Center opened was 20.22 hours a week.

Corresponding to this increase in the number of hours spent in study is an increase in the use of written materials from the library. The three semester average of two-week books checked out per student before the Learning Center was 16.66; the corresponding average after Learning Center use began was 23.13.

E. There has not been any change in the level of grades given at the college between the period before the Learning Center and after its use began. The grade point average for the whole campus was 2.44 both before and after the Center went into operation. At the same time, however, it should be noted that the general consensus of the campus is that the grading standards have increased. (See Table 20.) The grade point average, therefore, has remained the same during a period of increasing standards, thus pointing to an increased level of learning.

F. The adoption of the Learning Center approach has resulted in some significant saving of both teacher time and classroom usage. While the three semesters covered in this study are insufficient to base any broad generalizations on, it can be reported that this study indicates clearly that there were some savings in these areas. Those teachers who used the Learning Center for any purpose were asked how much time they saved per week as compared with the amount of time required in the corresponding courses before the Learning Center. The reply indicated an average saving of five hours a week. The wide variety of types and extents of use make this figure of little value as a generalization. The direction, however, unmistakably indicates that the use of such approaches and media as recordings, independent study, single concept films, modified class meeting arrangements can result in a saving of both teacher and classroom time. The exact amount will depend largely upon the design of the particular program and the number of students or sections of the class involved.

G. The electronic equipment is available and at a cost which can be afforded by many institutions of learning for making use of many of the new media. Maintenance costs, operating costs, and purchase costs are all within tolerable limits for many schools and this study indicates that such facilities can be integrated into a college program at an operational level.

H. The type of research and data gathering done in this study is not the traditional type which utilized control groups, hypotheses, and correlations. It is, rather, contextual research done in something of the manner of a case study. It is the conclusion of those connected with this study that, while additional effort should be spent in determining effective ways to approach such studies, such an approach to certain types of problems is worthwhile. Particularly this will be true when institutions have such data which can be shared.

II. Recommendations for Further Research

This study has led those connected with it to see needs for much additional research. There is a need for an extension of some of the data gathered in this project (see A below), and a need for research on related matters (see B below).

A. When this study was originally conceived, it was set up on a 27-months basis to provide the opportunity to observe OCC over a three semester period. This was considered a reasonable amount of time for drawing useful conclusions. While this has provided a suitable period over which to measure such matters as the initial use of the Learning Center and the beginning attitudes toward it, it is also clear that an additional three semester period would provide a valuable extension to the data already gathered.

Will patterns of use and attitudes change as the Center becomes less of an innovation to the campus community? Will teachers increase the tempo of their usage or will it level off or even decrease as they have more experience with the media? Will the Learning Center have long range effects in determining which students are attracted and held at the institution? Such questions could be answered by a continuation of the data gathering already done.

In addition, measurement of effects on classrooms, use of teacher time, library usage, grades and study patterns need to be continued to determine whether the trends shown in this study are maintained after a longer period of use. Maintenance of equipment, use of Learning Center personnel, and costs of preparation of material compared with the length of their usefulness also need to be followed over a longer period of time.

The CUES scores, which were somewhat difficult to reconcile with the other data gathered, need to be gathered for an additional period to determine whether this instrument will indicate additional changes of attitudes among students and faculty.

In sum, the data already gathered on Oklahoma Christian College as an institution in the process of change offers the unique possibility to continue observation past the initial states covered by this project. With important data now in hand to serve as a beginning point, the opportunity to continue these observations should not be overlooked.

Included in a continuation of the gathering of this data would be the opportunity to continue the search for means of recording and evaluating an institution in the dynamics of change. Since there is a growing number of institutions involved in attempts to utilize new approaches and media in their instructional programs, more study needs to be given to ways of measuring and evaluating these changes. The traditional research techniques of testing hypotheses, computing means, and utilizing control groups does not seem to apply to such a dynamic process.

B. This study has focused on a college in the process of changing its instructional patterns, but it has not sought to evaluate objectively the particular strengths and weaknesses, advantages and disadvantages, of the various media which have been utilized. Additional research is needed in determining the unique contributions which various educational media are able to make and the circumstances under which they function best. Some media, such as recorded instruction, compressed speech, single concept films, and other individual study techniques need considerable research to determine their effectiveness in the instructional process.

CHAPTER VI: SUMMARY

The Oklahoma Christian College Learning Center began full operation in the spring semester of 1966. During the first three semesters of operation, the entire Learning Center program was analyzed and evaluated to determine the ways in which it affected the total campus scene. Data was collected in the areas of amount of usage, attitudes, and effects on the college operation.

It was found that for the first three semesters of use 2.69 percent of the student body was in the library each hour. Each student spent an average of 3.59 hours per week in the library and checked out 23.13 two-week books and 8.61 reserve books per semester. The faculty members averaged checking out 16.53 books per semester.

In the use of the carrels, it was found that 11.36 percent of the student body was in the carrels each hour 7 a.m. to 11 p.m., Monday through Friday. The average student spent from ten to twenty hours per week in his carrel. There was an increase of about four hours in study per week over the time before the Learning Center or about a 25 percent increase. From 25 to 59 percent of the classes used tapes and an average student made 251.56 calls on the dial-access system during each semester.

Twenty-four instructional programs were developed by the faculty and almost all teachers used the Center for special purposes and occasions. Each teacher who used the Center found that it saved him about five hours per week. Overall this amounted to scheduling, on the average, 20 fewer class sessions per week in offering from 148 to 163 classes than would have been needed without the Learning Center.

Students were generally favorably disposed toward the Learning Center. They saw the carrel primarily as a place to study and to listen to tapes. They also liked its proximity to the classrooms. During the time of the Impact evaluation, the students felt that the academic challenge on campus increased.

The level of grades achieved, however, did not change with the campus-wide grade point averages both before and after the Learning Center at 2.44.

There was extensive public interest in the Center. More than 1,650 recorded visits were made to the campus. Most of these were by representatives of educational institutions. In addition more than 360 inquiries of various kinds about the Center were made by letter and phone.

APPENDIX

Percent of Student Body in Library
Each Day Monday Through Friday

Hour	Spring 1966	Fall 1966	Spring 1967
7:30	.03	.34	.43
8:30	2.50	2.32	2.64
9:30	2.63	3.79	3.63
10:30	2.68	Closed	Closed
11:30	3.11	2.93	3.06
12:30	2.31	2.22	2.72
1:30	3.53	4.03	3.43
2:30	3.04	3.02	3.38
3:30	2.76	2.54	2.24
4:30	3.37	2.85	3.06
5:30	1.64	1.48	1.42
6:30	2.35	2.18	3.40
7:30	5.34	3.47	3.69
8:30	4.49	3.87	4.44
9:30	3.26	3.06	3.40

The number of full-time students each semester was 624 in the spring of 1966, 827 in the fall of 1966, and 705 in the spring of 1967.

Percent of Student Body in Library Each Hour
7:30 a.m. Through 9:30 p.m.

Day	Spring 1966	Fall 1966	Spring 1967
Monday	3.38	2.89	3.48
Tuesday	3.17	2.65	3.02
Wednesday	3.93	2.59	2.33
Thursday	2.45	2.75	2.42
Friday	1.60	1.65	2.71

There were 624 full-time students in the spring semester of 1966; 827 in the fall of 1966; and 705 in the spring of 1967.

Percent of Student Body in Learning Center Carrel Section Monday Through Friday

Hour	Spring Semester of 1966	Fall Semester of 1966	Spring Semester of 1967
7:30	4.87	6.07	5.16
8:30	13.49	13.54	11.38
9:30	11.79	17.61	13.22
11:30	12.12	10.74	12.45
12:30	16.47	14.66	16.88
1:30	15.30	20.34	19.35
2:30	14.71	16.98	14.65
3:30	14.46	14.07	11.18
4:30	13.17	11.95	9.87
5:30	4.94	5.78	5.76
6:30	9.36	7.50	7.69
7:30	13.18	10.82	11.77
8:30	13.86	10.91	14.29
9:30	12.30	12.29	9.90
10:30	3.62	4.79	4.20

Percent of Student Body* in Learning Center Per Day Determined from the Student Log

Time of Day	Spring 1966	Fall 1966	Spring 1967
7:00	9.03	8.24	10.76
8:00	20.96	14.22	22.69
9:00	20.38	20.00	18.07
10:00	26.34	8.24	16.53
11:00	21.73	13.40	19.23
12:00	24.03	17.52	20.38
1:00	27.69	20.20	20.38
2:00	21.34	23.29	15.00
3:00	23.46	18.55	11.92
4:00	16.92	16.90	6.15
5:00	8.46	9.48	5.00
6:00	11.92	14.63	9.23
7:00	14.61	15.25	11.15
8:00	12.30	15.25	14.23
9:00	14.42	11.75	12.69
10:00	6.92	4.74	5.76

*The sample contained 104 students in the spring of 1966, 97 in the fall of 1966, and 52 the last semester.

Number of Calls Per Day Per Full-Time Student

Week of Semester	Spring 1966	Fall 1966	Spring 1967
1	4.12	3.17	2.19
2	5.30	3.83	3.64
3	5.11	3.92	2.32
4	3.54	2.84	2.07
5	2.61	3.00	3.36
6	4.32	2.70	1.90
7	2.36	2.11	1.85
8	1.72	1.49	2.46
9	2.24	1.63	1.36
10	1.12	1.71	2.05
11	1.69	2.72	1.71
12	1.39	1.87	1.33
13	1.80	1.62	1.38
14	1.28	1.94	1.64
15	1.33	1.16	1.03
16	1.03	1.11	1.26
17	1.78	1.19	1.91
18	4.26	1.91	--

A Study of OCC Using Semantic Scales (Faculty)

Concept	Scale	Average Rating On 7-Point Scale From Left to Right		
		S 66 N=25	F 66 N=18	S 67 N=20
I. Academic Atmosphere	Scholarly--Unscholarly	4.20	3.61	4.00
	Good--Bad	3.72	3.44	3.45
	Passive--Active	4.24	4.11	3.90
	Necessary--Unnecessary	2.44	1.94	1.95
	Complex--Simple	3.88	3.38	3.65
	Discouraging--Encouraging	4.52	4.38	4.30
	Creative--Uncreative	3.88	3.22	3.80
	Existent--Non-existent	3.52	3.33	3.30
	Like--Dislike	3.24	3.38	3.70
II. Achievement of Personal Goals	Important--Unimportant	1.76	1.94	1.90
	Unsuccessful--Successful	5.36	4.77	5.10
	Scholarly--Unscholarly	3.36	2.94	3.45
	Slow--Rapid	4.32	3.88	4.20
	Easy--Difficult	4.36	4.55	4.40
	Planned--Unplanned	3.28	3.16	3.45
	Without Counsel--With Counsel	5.41	4.72	4.75
	Organized--Disorganized	3.41	3.38	3.45
	Out of Class--In Class	3.87	4.16	3.85
III. Taped Announcements	Helpful--Useless	3.52	2.77	3.35
	Unnecessary-Necessary	5.44	5.38	5.35
	Poorly Done--Well Done	4.84	5.11	5.05
	Organized--Confusing	3.12	3.38	3.25
	Unreliable--Reliable	5.16	5.38	4.95
	Convenient--Inconvenient	2.76	2.77	3.55
	Unsuccessful--Successful	5.32	4.83	4.20
	Like--Dislike	2.76	2.66	2.95
	Never Listen--Always Listen	3.52	3.11	3.30

			S 66	F 66	S 67
IV.	Campus Spirit	Academic--Unacademic	4.28	3.88	4.15
		Dislike--Like	5.24	5.11	4.95
		Social--Antisocial	2.36	2.44	2.65
		Bad--Good	5.00	5.66	5.30
		Unimportant--Important	6.20	6.22	6.25
		Real--Pretended	2.68	2.38	2.75
		Complex--Simple	4.00	4.00	7.05
		Little--Much	4.80	4.88	4.70
		Adult--Childish	4.28	3.72	4.15
V.	Carrel	Important--Unimportant	2.20	1.68	2.00
		Uncomfortable--Comfortable	5.76	5.26	4.75
		Quiet--Noisy	4.68	4.63	4.85
		Useful--Useless	1.92	1.94	2.25
		Unsuccessful--Successful	5.44	5.78	5.25
		Scholarly--Unscholarly	2.92	2.52	3.20
		Concentration--Distraction	3.92	3.52	3.80
		Convenient--Inconvenient	2.20	2.10	2.35
		Order--Disorder	3.88	2.94	3.55
VI.	Classes	Necessary--Unnecessary	1.92	2.31	1.95
		Complex-Simple	4.00	3.63	3.45
		Scholarly--Unscholarly	3.40	3.00	3.45
		Bad--Good	5.16	5.21	5.25
		Interesting-Boring	3.00	3.31	3.10
		Unavailable--Available	5.16	5.47	5.05
		Encouraging--Discouraging	2.89	3.15	3.00
		Disorganized--Organized	5.44	5.15	3.35
		Like--Dislike	2.68	2.73	2.70
VII.	Classrooms	Comfortable--Uncomfortable	3.20	3.05	3.50
		Unnecessary--Necessary	6.56	6.31	1.15
		Well Planned--Poorly Planned	5.00	4.26	4.25
		Good--Bad	3.40	3.42	3.75
		Useless--Helpful	5.44	5.78	5.40
		Well Equipped--Poorly Equipped	3.56	3.26	3.50
		Unimportant--Important	6.32	5.73	6.00

			S 65	F 66	S 67
	Classrooms (Continued)	Scholarly--Unscholarly	4.08	3.11	3.50
		Practical--Impractical	3.20	2.77	3.80
VIII.	Counselor	Available--Unavailable	3.08	3.16	3.40
		Uninterested--Interested	5.56	5.72	5.10
		Helpful--Unhelpful	2.64	2.66	2.55
		Effective--Ineffective	3.04	2.72	2.00
		Simple--Complex	4.36	4.16	4.30
		Necessary--Unnecessary	2.28	1.83	2.65
		Unqualified--Qualified	4.84	5.27	4.65
		Informed--Uninformed	3.36	2.83	3.05
		Right--Wrong	3.36	2.94	3.15
IX.	Experimentation	Good--Bad	2.12	2.27	2.50
		Unnecessary--Necessary	6.36	5.94	5.85
		Beneficial--Useless	1.88	2.27	2.55
		Simple--Complex	5.40	4.88	5.15
		More--Less	2.32	3.16	2.75
		Destructive--Constructive	5.84	5.50	5.65
		Scholarly--Unscholarly	2.76	3.05	3.05
		Understood--Misunderstood	3.84	3.77	4.10
		Exciting--Dull	2.24	2.72	2.65
X.	Grades	Easy--Difficult	3.72	4.33	3.85
		Study--Effortless	3.00	3.00	3.20
		Important--Unimportant	2.44	2.61	3.00
		Discouraging--Encouraging	5.00	4.72	4.20
		Success--Failure	3.04	3.11	3.35
		Unfair--Fair	5.52	5.44	5.10
		Meaningful--Meaningless	2.96	2.94	3.50
		Useless--Helpful	5.72	5.22	4.90
		Good--Bad	3.08	2.94	3.60
XI.	Headset (and dial)	Uncomfortable--Comfortable	4.64	4.50	4.65
		Interesting--Uninteresting	2.56	3.00	2.90
		Useless-Useful	6.24	5.78	5.65
		Simple--Complex	2.76	3.00	2.90
		Active--Passive	3.98	3.38	3.70
		Unscholarly--Scholarly	4.92	5.16	4.80
		Successful--Unsuccessful	2.52	2.94	2.80

			S 66	F 66	S 67
	Headset (Continued)	Inconvenient--Convenient	5.76	5.61	5.35
		Like--Dislike	2.32	2.72	2.90
XII.	Instructors	Interesting--Boring	3.16	2.83	3.10
		Unqualified--Qualified	5.44	5.44	5.35
		Creative--Uncreative	3.24	3.88	4.20
		Unscholarly--Scholarly	5.08	3.94	3.20
		Easy--Hard	4.56	4.72	4.80
		Unfair--Fair	5.44	5.16	5.30
		Helpful--Unhelpful	2.96	2.38	2.60
		Conscientious--Unconscientious	2.88	2.22	2.40
		Good--Bad	2.92	2.33	2.95
XIII.	Learning	Difficult--Easy	3.92	4.16	4.05
		Enjoyable--Unenjoyable	2.48	2.66	2.90
		Simple--Complex	4.68	4.66	4.60
		Fast--Slow	3.52	3.50	3.60
		Beneficial--Useless	2.12	1.77	2.25
		Unorganized--Organized	5.12	5.74	5.20
		Active--Passive	2.84	2.55	2.75
		Compelled--Desired	5.20	4.38	4.40
		Much--Little	2.80	3.00	3.25
XIV.	Learning Center	Pleasant--Unpleasant	2.54	2.66	2.65
		Noisy--Quiet	2.95	3.24	2.80
		Study--Plan	4.00	3.66	4.35
		Ineffective--Effective	4.95	5.16	5.15
		Beneficial--Worthless	2.33	2.11	2.45
		Busy Work--Scholarship	4.95	4.61	4.30
		Important--Unimportant	2.08	2.38	2.30
		Convenient--Inconvenient	2.20	2.16	2.45
		Like--Dislike	2.25	2.16	2.20
XV.	Library	Convenient--Inconvenient	1.76	1.83	2.45
		Easy to Use--Difficult to Use	2.36	2.55	2.80
		Uncomfortable--Comfortable	6.48	5.77	5.95
		Good--Bad	2.32	2.50	2.70
		Simple--Complex	3.48	3.88	3.70

			S 66	F 66	S 67
	Library (Continued)	Useless--Useful	6.28	6.33	5.80
		Quiet--Noisy	2.68	2.66	3.05
		Limited--Extensive	3.12	3.50	3.55
		Organized--Disorganized	2.56	2.83	2.90
XVI.	Scholarship on Campus	Important--Unimportant	2.40	1.88	1.80
		Inferior--Superior	4.20	4.52	4.20
		Meaningless--Meaningful	5.20	4.42	5.10
		Good--Bad	3.44	2.88	3.30
		Demanding--Easy	3.84	3.57	3.50
		Strong--Weak	3.89	3.63	3.75
		Necessary--Unnecessary	2.08	2.05	2.25
		Simple--Complex	4.08	4.84	4.35
		Like--Dislike	3.24	2.61	3.25
XVII.	Social Life on Campus	Bad--Good	5.28	5.50	5.00
		Simple--Complex	3.44	4.27	3.80
		Unvaried--Varied	4.04	4.66	4.75
		Interesting--Dull	3.44	3.55	3.70
		Cheap--Expensive	3.52	3.72	3.40
		Unsatisfying--Satisfying	4.72	4.66	4.65
		Much--Little	3.84	3.55	3.85
		Like-Dislike	3.32	3.27	3.50
		Adult--Childish	4.24	3.38	3.95
XVIII.	Study	Easy--Difficult	4.16	4.11	4.00
		Enjoy--Hate	2.41	2.83	2.80
		Failure--Success	5.00	5.11	4.90
		Important--Unimportant	2.12	2.16	2.30
		Simple--Complex	4.16	4.38	4.75
		Memorizing--Thinking	4.62	4.62	4.40
		Necessary--Unnecessary	2.00	2.27	2.50
		Meaningful--Meaningless	2.37	2.61	2.90
		Much--Little	3.33	2.94	3.30
XIX.	Supervision of Learning Center	Necessary--Unnecessary	2.16	2.05	2.20
		Bad--Good	3.92	4.22	3.75
		Unsuccessful--Successful	3.56	3.72	3.40
		Important--Unimportant	2.36	2.22	2.35
		Easy--Difficult	5.40	5.11	5.45

			S 66	F 66	S 67
	Supervision of Learning Center (Continued)	Constant-Periodic	4.92	4.27	4.35
		Active--Passive	4.36	3.77	3.40
		Dislike--Like	3.48	4.33	3.60
		Simple--Complex	4.52	4.77	4.90
XX.	Tape Recordings	Bad--Good	5.28	4.94	5.05
		Well Prepared--Poorly Prepared	2.80	2.94	3.15
		Interesting--Boring	3.16	3.11	3.30
		Uninformative--Informative	5.64	5.44	5.30
		Simple--Complex	4.32	4.16	4.20
		Uncreative--Creative	5.08	4.94	4.70
		Useful--Useless	2.36	2.61	2.85
		Long--Short	4.09	3.83	3.60
		Like--Dislike	2.44	2.83	3.00
XXI.	Teachers' Offices	Convenient--Inconvenient	2.00	3.33	3.10
		Confidential--Public	4.04	4.11	3.85
		Noisy--Quiet	3.92	4.00	4.20
		Welcome--Unwelcome	2.08	2.16	2.70
		Neat--Messy	3.60	3.61	3.60
		Large--Small	4.96	4.94	4.45
		Simple--Complex	3.64	3.72	3.70
		Scholarly--Unscholarly	3.36	2.94	3.40
		Busy--Idle	2.72	2.33	3.10
XXII.	Use of Time	Wasted--Rewarding	5.25	4.94	4.65
		Organized--Unorganized	3.16	3.66	3.75
		No Free--All Free	3.62	2.72	3.45
		Active--Passive	2.95	2.77	3.10
		Unprofitable--Profitable	5.58	5.22	5.15
		Interesting--Boring	2.66	2.66	3.00
		Bad--Good	5.16	4.94	5.15
		Encouraging--Discouraging	2.91	3.22	3.10
		Valuable--Worthless	2.62	2.72	2.55
XXIII.	Workbooks for Learning Center	Creative--Uncreative	3.16	3.27	3.30
		Useless--Useful	5.60	5.33	5.20
		Simple--Complex	4.04	4.16	3.80
		Expensive--Cheap	4.28	4.00	4.10

		S 66	F 66	S 67
Workbooks (Continued)	Interesting--Uninteresting	3.05	3.11	3.30
	Passive--Active	5.00	4.83	4.75
	Demanding--Easy	4.28	3.66	3.75
	Scholarly--Unscholarly	3.56	3.61	3.55
	Organized--Disorganized	2.84	2.88	2.75
XXIV. Student's Role in the Learning Process	Important--Unimportant	1.69	1.61	1.85
	Strong--Weak	3.16	3.05	2.95
	Passive--Active	4.52	4.61	4.65
	Student Dominated--Teacher Dominated	4.60	4.55	5.20
	Like--Dislike	3.36	3.55	3.60
	Uninteresting--Interesting	5.00	5.11	4.70
	Successful--Unsuccessful	3.88	3.55	3.25
	Complex--Simple	3.76	3.50	3.65
	Uncreative--Creative	4.60	4.38	4.25

A Study of OCC Using Semantic Scales (Students)

	Concept	Scale	Average Rating on 7-Point Scale From Left to Right		
			S 66 N=185	F 66 N=188	S 67 N=175
I.	Academic Atmosphere	Scholarly--Unscholarly	3.51	3.05	3.25
		Good--Bad	3.29	2.80	3.14
		Passive--Active	4.47	4.74	4.65
		Necessary--Unnecessary	2.24	2.15	2.08
		Complex--Simple	3.72	3.66	3.75
		Discouraging--Encouraging	4.36	4.66	4.34
		Creative--Uncreative	3.73	3.27	3.38
		Existent--Non-existent	3.02	2.74	2.97
		Like--Dislike	3.20	2.89	3.15
II.	Achievement of Personal Goals	Important--Unimportant	1.46	1.43	1.63
		Unsuccessful--Successful	5.14	5.25	5.29
		Scholarly--Unscholarly	3.02	2.91	2.83
		Slow--Rapid	4.06	4.24	4.23
		Easy--Difficult	4.59	4.67	4.39
		Planned--Unplanned	2.85	2.77	2.89
		Without Counsel--With Counsel	3.88	4.38	4.18
		Organized--Disorganized	3.29	3.16	3.19
		Out of Class--In Class	3.85	3.80	3.82
III.	Taped Announcements	Helpful--Useless	2.41	3.49	4.06
		Unnecessary--Necessary	5.54	4.61	4.44
		Poorly Done--Well Done	5.32	4.77	4.49
		Organized--Confusing	2.56	3.18	3.45
		Unreliable--Reliable	5.89	4.89	5.00
		Convenient--Inconvenient	2.31	3.12	3.53
		Unsuccessful--Successful	5.68	4.56	4.19
		Like--Dislike	2.43	3.21	3.68
		Never Listen--Always Listen	5.02	3.64	3.43

			S 66	F 66	S 67
IV.	Campus Spirit	Academic--Unacademic	3.59	3.10	3.49
		Dislike--Like	4.69	5.15	4.98
		Social--Antisocial	3.09	3.01	2.02
		Bad--Good	4.82	5.16	4.95
		Unimportant--Important	6.20	2.93	5.38
		Real--Pretended	3.31	2.93	3.38
		Complex--Simple	4.47	4.46	4.50
		Little--Much	3.83	4.72	4.36
		Adult--Childish	4.10	3.77	4.09
V.	Carrel	Important--Unimportant	2.51	2.13	2.16
		Uncomfortable--Comfortable	4.88	5.15	4.96
		Quiet--Noisy	5.22	5.14	5.43
		Useful--Useless	2.49	2.16	2.53
		Unsuccessful--Successful	5.05	5.51	5.30
		Scholarly--Unscholarly	2.74	2.65	2.70
		Concentration--Distraction	4.05	4.02	4.57
		Convenient--Inconvenient	2.47	2.33	2.55
		Order--Disorder	3.25	3.26	3.55
VI.	Classes	Necessary--Unnecessary	1.88	1.78	1.97
		Complex--Simple	3.65	3.48	3.72
		Scholarly--Unscholarly	2.96	2.79	2.88
		Bad--Good	5.11	5.28	5.19
		Interesting--Boring	3.34	3.31	3.44
		Unavailable--Available	4.53	5.21	4.95
		Encouraging--Discouraging	3.27	3.51	3.29
		Disorganized--Organized	4.81	5.03	5.00
		Like--Dislike	3.01	3.00	2.93
VII.	Classrooms	Comfortable--Uncomfortable	2.99	2.89	2.86
		Unnecessary--Necessary	6.17	6.24	5.95
		Well Planned--Poorly Planned	3.58	3.15	3.31
		Good--Bad	3.01	2.68	2.76
		Useless--Helpful	5.79	5.63	5.35
		Well Equipped--Poorly Equipped	3.71	3.17	3.35
		Unimportant--Important	6.02	5.99	5.74
		Scholarly--Unscholarly	3.08	2.90	3.11
		Practical--Impractical	3.02	2.71	2.83

		S 66	F 66	S 67
VIII. Counselor	Available--Unavailable	3.69	3.41	3.61
	Uninterested--Interested	4.81	5.21	5.05
	Helpful--Unhelpful	3.41	3.08	3.10
	Effective--Ineffective	3.63	3.24	3.34
	Simple--Complex	3.39	3.69	3.60
	Necessary--Unnecessary	2.44	2.30	2.30
	Unqualified--Qualified	4.78	5.29	5.15
	Informed--Uninformed	3.30	3.01	3.01
	Right--Wrong	3.26	2.81	3.18
IX. Experimentation	Good--Bad	2.48	2.61	2.72
	Unnecessary--Necessary	5.84	5.60	5.63
	Beneficial--Useless	2.23	2.48	2.57
	Simple--Complex	4.36	4.37	4.40
	More--Less	3.04	3.18	3.31
	Destructive--Constructive	5.44	5.28	5.16
	Scholarly--Unscholarly	2.72	2.81	2.87
	Understood--Misunderstood	3.66	3.48	3.45
	Exciting--Dull	3.11	3.34	3.28
X. Grades	Easy--Difficult	4.61	4.74	4.72
	Study--Effortless	2.60	2.49	2.74
	Important--Unimportant	1.91	1.97	2.05
	Discouraging--Encouraging	4.32	4.48	4.45
	Success--Failure	2.90	3.21	3.07
	Unfair--Fair	5.12	4.98	6.16
	Meaningful--Meaningless	2.89	2.73	2.70
	Useless--Helpful	5.43	5.52	5.47
	Good--Bad	3.06	2.88	2.82
XI. Headset (and dial)	Uncomfortable--Comfortable	2.83	3.16	2.83
	Interesting--Uninteresting	2.88	3.31	3.42
	Simple--Complex	2.16	2.46	2.43
	Active--Passive	2.97	3.07	3.42
	Unscholarly--Scholarly	5.52	5.20	5.25
	Successful--Unsuccessful	2.55	2.59	2.82
	Inconvenient--Convenient	5.20	5.05	4.87
	Like--Dislike	2.90	2.97	3.56

			S 66	F 66	S 67
XII.	Instructors	Interesting--Boring	3.22	3.42	3.33
		Unqualified--Qualified	5.46	5.53	5.50
		Creative--Uncreative	3.38	4.48	4.56
		Unscholarly--Scholarly	5.29	3.88	3.50
		Easy--Hard	4.65	5.28	5.30
		Unfair--Fair	5.36	5.35	5.11
		Helpful--Unhelpful	2.55	2.80	2.86
		Conscientious--Unconscientious	2.65	2.58	2.65
		Good--Bad	2.51	2.55	2.66
XIII.	Learning	Difficult--Easy	3.91	3.83	3.96
		Enjoyable--Unenjoyable	2.80	2.81	3.03
		Simple--Complex	4.43	4.32	4.21
		Fast--Slow	3.73	3.68	3.66
		Beneficial--Useless	2.09	2.11	2.36
		Unorganized--Organized	4.93	5.21	5.17
		Active--Passive	2.95	2.80	2.66
		Compelled--Desired	4.93	4.97	4.86
		Much--Little	2.84	2.69	2.91
XIX.	Learning Center	Pleasant--Unpleasant	2.64	2.69	3.02
		Noisy--Quiet	2.67	2.72	2.36
		Study--Play	3.55	3.50	3.94
		Ineffective--Effective	4.90	5.20	4.74
		Beneficial--Worthless	2.53	2.26	2.64
		Busy Work--Scholarship	4.24	4.05	3.89
		Important--Unimportant	2.49	2.24	2.59
		Convenient--Inconvenient	2.34	2.31	2.66
		Like--Dislike	2.30	2.29	2.70
XV.	Library	Convenient--Inconvenient	1.77	1.86	1.83
		Easy to Use--Difficult to Use	2.17	2.17	2.24
		Uncomfortable--Comfortable	6.01	6.01	5.88
		Good--Bad	2.26	2.07	2.34
		Simple--Complex	2.92	3.32	3.25
		Useless--Useful	6.06	6.13	5.97
		Quiet--Noisy	2.19	1.88	2.13
		Limited--Extensive	2.86	3.40	3.06
		Organized--Disorganized	2.29	2.20	2.53

			S 66	F 66	S 67
XVI.	Scholarship on Campus	Important--Unimportant	2.17	1.99	2.14
		Inferior--Superior	4.34	4.79	4.28
		Meaningless--Meaningful	5.24	5.49	5.14
		Good--Bad	2.93	2.49	2.95
		Demanding--Easy	3.25	2.87	3.27
		Strong--Weak	3.29	2.99	3.42
		Necessary--Unnecessary	2.15	2.27	2.34
		Simple--Complex	4.17	4.30	4.32
		Like--Dislike	2.78	2.62	2.87
XVII.	Social Life on Campus	Bad--Good	4.70	4.70	4.60
		Simple--Complex	3.17	3.29	3.23
		Unvaried--Varied	3.99	4.29	3.95
		Interesting--Dull	3.54	3.59	3.87
		Cheap--Expensive	3.29	3.64	3.35
		Unsatisfying--Satisfying	4.32	4.30	4.15
		Much--Little	4.19	4.04	4.29
		Like--Dislike	3.48	3.49	3.49
		Adult--Childish	3.78	3.85	4.06
XVIII.	Study	Easy--Difficult	4.29	4.47	4.30
		Enjoy--Hate	3.10	3.07	3.13
		Failure--Success	5.14	4.80	4.87
		Important--Unimportant	1.91	1.74	1.94
		Simple--Complex	4.24	4.39	4.23
		Memorizing--Thinking	3.62	3.99	3.95
		Necessary--Unnecessary	1.98	1.91	2.01
		Meaningful--Meaningless	2.46	2.29	2.58
		Much--Little	2.77	2.65	2.97
XIX.	Supervision of Learning Center	Necessary--Unnecessary	2.12	1.97	2.21
		Bad--Good	3.64	3.58	3.42
		Unsuccessful--Successful	3.49	3.40	3.11
		Important--Unimportant	2.21	1.96	2.14
		Easy--Difficult	4.85	4.72	4.93
		Constant--Periodic	4.73	4.75	4.76
		Active--Passive	3.90	4.04	4.03
		Dislike--Like	3.82	4.24	3.98
		Simple--Complex	3.92	3.67	3.94

		S 66	F 66	S 67
XX. Tape Recordings	Bad--Good	4.23	4.93	4.86
	Well-prepared--Poorly Prepared	2.77	2.89	3.02
	Interesting--Boring	3.13	3.47	3.79
	Uninformative--Informative	5.36	5.44	5.14
	Simple--Complex	3.51	3.65	3.63
	Uncreative--Creative	4.81	4.59	4.29
	Useful--Useless	2.63	2.58	2.81
	Long--Short	3.56	2.94	3.08
	Like--Dislike	2.98	3.12	3.61
XXI. Teachers' Offices	Convenient--Inconvenient	2.50	2.34	2.56
	Confidential--Public	3.32	2.89	3.03
	Noisy--Quiet	4.49	5.01	4.92
	Welcome--Unwelcome	2.37	2.24	2.39
	Neat--Messy	3.10	3.29	3.43
	Large--Small	5.10	5.16	5.26
	Simple--Complex	2.96	3.13	3.16
	Scholarly--Unscholarly	3.02	2.77	3.16
	Busy--Idle	2.59	2.47	2.86
XXII. Use of Time	Wasted--Rewarding	4.35	4.56	4.45
	Organized--Unorganized	3.61	3.55	3.77
	No Free--All Free	3.42	3.40	3.64
	Active--Passive	2.91	2.77	2.90
	Unprofitable--Profitable	5.08	5.17	5.02
	Interesting--Boring	2.86	2.62	2.86
	Bad--Good	4.96	4.91	4.78
	Encouraging--Discouraging	3.18	3.33	3.29
	Valuable--Worthless	2.47	2.45	2.76
XXIII. Workbooks for Learning Center	Creative--Uncreative	3.24	3.27	3.40
	Useless--Useful	5.02	5.07	4.91
	Simple--Complex	3.31	3.21	3.34
	Expensive--Cheap	3.63	3.48	3.87
	Interesting--Uninteresting	3.26	3.48	3.43
	Passive--Active	4.36	4.47	4.25
	Demanding--Easy	3.74	3.75	3.90
	Scholarly--Unscholarly	3.37	3.34	3.51
	Organized--Disorganized	2.77	2.50	2.75

			S 66	F 66	S 67
XXIV.	Student's Role in the Learning Process	Important--Unimportant	1.73	1.52	1.63
		Strong--Weak	2.83	2.49	2.81
		Passive--Active	4.98	5.07	4.89
		Student Dominated--Teacher Dominated	3.95	3.07	3.74
		Like--Dislike	3.05	2.87	2.96
		Uninteresting--Interesting	5.00	5.02	4.94
		Successful--Unsuccessful	3.22	2.98	3.14
		Complex--Simple	3.91	3.74	3.80
		Uncreative--Creative	4.68	4.86	4.67

Percent* of Students in Various Locations on Campus

Time of Day	Learning Center	Library	Class	TOTAL
7:30	5.11	.29	1.45	6.85
8:30	12.82	2.48	37.24	52.54
9:30	14.49	3.25	56.27	74.01
10:30	Daily Campus Convocation			
11:30	11.69	3.00	47.28	61.97
12:30	11.51	2.39	27.32	41.22
1:30	18.90	3.45	44.32	66.67
2:30	15.64	3.14	49.32	68.10
3:30	13.24	2.50	39.50	55.24
4:30	11.62	3.07	22.57	37.26
5:30	5.53	1.52	2.92	9.97

*The figures are averages for the three semesters of the Impact Project.

Magazine and Journal Articles
On the OCC Learning Center

"Electronic Learning Center," *Catholic School Journal (Audio Visual Issue)*. May 1966. pp. 32-33.

Forman, Dr. Sidney. "M & M Visits...Oklahoma," *The Teachers Guide to Methods and Media*. April 1967. pp. 41-42.

"Happiness Is Your Own Carrel," *Time*. February 18, 1966. p. 60.

Herbert, Evan. "Technology For Education," *International Science and Technology*. August 1967. pp. 28-49.

Kiseda, George. "Hello Shakespeare, Are You There," *Parade*. October 9, 1967. p. 8.

Kontakt. June 1966.

"Learning Center With Electronic Learning Laboratory," *School Product News*. August 1966.

Meier, Milton V. "Tape Recorders and Learning Center: A College Searches For New Keys," *The National Observer*. Vol. 5, No. 7.

"A New A-V Technology for Wide-Angles Learning," *American School and University*. Vol. 39, No. 8. 1967. pp. 23-27, 53.

North, R. S. "An Approach to Instructional Materials Development," *American Journal Of Pharmaceutical Education*. Vol. 30. December 1966. pp. 664-671.

North, R. S. "Dial Access Retrieval System at Oklahoma Christian College," *Audiovisual Instruction*. May 1967. pp. 468-469.

North, R. S. "Learning Center Gives Each Student a Study Carrel," *College and University Business*. May 1966.

North, R. S. "Learning Center at Oklahoma Christian College," *Higher Education Media Study*.

North, R. S. "Personalization By Mechanization," *The Tennessee Teacher*. September 1966. pp. 14-17.

Magazine and Journal Articles (Continued)

"Oklahoma Christian Students Can Dial Their Lectures," AHE College and University Bulletin. Vol. 18, No. 14. May 1, 1966.

"Tapes Stretch Faculty: Individualize Learning," College Management. May 1966. p. 76.

"Zeit-Geistville, 1966," Esquire. December 1966.

ADDRESSES ON THE LEARNING CENTER MADE BY DR. STAFFORD NORTH
APRIL 1966 TO SEPTEMBER 1967

Division of Audio Visual Instruction of the NEA at San Diego, California, April 28, 1966

Oral Roberts University Faculty at Tulsa, Oklahoma, May 11, 1966

National Conference of Audio-Visual Programmed Instruction at Norman, Oklahoma, May 13, 1966

Conference of Executives and Editors of McGraw-Hill Company at Cherry Hill, New Jersey, June 9, 1966

1966 Teacher's Seminar on Pharmaceutical Education at Norman, Oklahoma, July 13, 1966

Florida State University--Seminar for graduate students in higher education and library science at Tallahassee, Florida, July 26, 1966

Annual Stillwater Dean's Conference on Oklahoma Christian College's Campus, August 3, 1966

Faculty of Ferris State College at Big Rapids, Michigan, September 14, 1966

Conference of Book Manufacturers Institute in the U. S. and Canada, at Bermuda, B.T., October 31, 1966

Conference on the Library College at the Drexel Institute at Philadelphia, Pennsylvania, December 19, 1966

Speech Association of America, at Chicago, Illinois, December 27, 1966

Faculty of Langston University and Consultant to Faculty at Langston, Oklahoma, Spring 1967

Faculty of Phillips University at Enid, Oklahoma, February 16, 1967

Consultant to Faculty of University of San Carlos at Guatemala City, Guatemala, C.A., June 24 to July 8, 1967

Media Institute, Oklahoma State University on Campus of Oklahoma Christian College, June 22, 1967

Selected Quotations From Three Student Diaries
On the Learning Center
During the School Year 1965-66

First Student Diary, D. J., Female, Junior

October 16--"Ever since school started the kids have been anxious for the opening of their carrels. Now as time draws nearer, the excitement over them is growing."

October 18--"About 9 p.m. I went to the second floor of the Learning Center to study for a test and there was so much noise that I couldn't study; so I left."

October 25--"Today in Convocation they announced the opening of the carrels. Everyone was real excited about moving in."

November 5--"I've found that I can get more homework done in my carrel than I could in the library. It's a good thing though that the library is just downstairs."

November 8--"It is Monday night and I am in my carrel studying. When I know that I have to study my carrel is a good place for me to go; but, so far neither my roommate nor I can take it for long periods of time. My other roommate came here one Saturday and stayed for 2-3 hours re-copying her Bible notes though."

November 9--"Tonight my other two roommates and I are all in our carrels studying. I think this shows that previously we had been interruptions to each other."

December 13--"Tonight I came to my carrel and at about 9 p.m. it was so quiet that I almost fell asleep!"

December 14--"I've really noticed that my row of carrels is used very much. There are several regulars who are usually here every time I come to mine. They seem to be eager studiers too."

March 29--"This second semester has shown much improvement in the use of the carrels. Some students still hibernate in their carrels but the boost in their grade points is reward enough. I've found my carrel an excellent place to do busywork like math homework, shorthand, reading English, writing letters, etc. It is extremely handy to have the library right downstairs, too."

May 18--"As the school year draws to a close, everyone has finally really accepted his carrel as a place to study."

May 19--"One particular freshman couple did too much courting in the carrel instead of studying. This bothered their neighbors. Another freshman girl carried on counseling sessions with broken-hearted males. I think people need to be aware that sound really travels in here."

May 20--"In closing let me say that I have found it an excellent place to do my busywork homework such as my Math 113, my shorthand (plus shorthand tapes which have been very helpful). I wrote my term paper in here with the help of books from the library. In fact, this second semester all of my studying was done here, my English reading assignments, psychology readings, Bible term paper, and art term paper. I just love my carrel because I can come here and get what must be done. They are a good place to write my letters, to type, to keep a calendar of events so I will know what and when things happen, keep my reference books that I need and use. I've heard a lot of people complain about having to pay $30 for their carrels; but I don't mind it because it's worth it to have a place where I can get all of these things done."

The Second Student Diary, V. B.

October 25--"Students are disturbed by the noise and talking that goes on among other students in the Learning Center."

October 28--"W. C. believes that the carrels are ideal places to study, but he does not think that the students will study in them as much as was expected or that the carrels will prove as satisfying as was expected because the students are prone to visit with other students.

November 1--"Students have been complaining about the noise that other students are making."

November 10--"G. N. said that if she were thinking of transferring, the Learning Center would stop her. She thinks the carrels are ideal places to study."

November 29--"The Learning Center creates a very proper mood of studying. When a student walks in, he knows he is in a place that is to be used for studying."

December 6--"The students are beginning to realize the value of the Learning Center, tapes, and carrels."

January 3--"The students are not using their carrels for the purpose of studying. They gather in little groups and talk which annoys students who are trying to study. The students do not have enough will power to tell someone they need to study."

January 15--"Students make more use of their carrels when it is time for final examinations."

February 3--"The tapes are good because it gives the instructor more time to prepare for their classes and to talk to their students. Also more material can be presented with the aid of the tapes."

March 6--"It appears that some students would rather go to the library and study instead of their carrels because in the library they can discuss their problems."

March 14--"L. K. said she prefers the carrels to the dormitory or library; however, she said there was a lot of noise. Also she likes the tapes because it gives time for class discussion instead of class lecture."

March 22--"Several students do not like for carrels to be patrolled. They think that there should not be so much noise but they also think that the students ought to be allowed to talk in their carrels if they don't get too loud."

March 31--"The carrels are more quiet since the teachers have started patrolling them."

The Third Student Diary, J. A.

October 19--"I received my Learning Center "diary" today. So far, the only comments I have heard have been of a rather general nature concerning the Learning Center. However, I heard one student express the opinion that he hoped the taped lectures were not stressed too much."

October 20--"While studying in the Learning Center, S. U., a senior political science major, commented without prompting on my part, 'If you really want to study, the carrels are a good place to go--they blot out everything; if you don't want to study though, they could drive you nutty.'"

November 1--"In my opinion, the carrels will be much more successful with the freshman and sophomore classes because seniors seem to have such strongly established study habits."

November 11--"L. P. feels that the carrels help establish a 'set' for her. She says that she definitely cannot study in the dorm now; and when she enters her carrel, she simply seems to get into the mood of studying. In the library there is too much temptation to visit."

December 12--"C. K. feels the Learning Center is a good place to study and likes the convenience of having a place to keep her books. The dorm is too noisy a place to study."

January 2--"J. G. complained of the noise in the Learning Center tonight."

January 10--"Noise seems to be the main criticism so far."

January 29--"L. P. says that some of the noise in the Learning Center seems to be corrected though there is still so much noise. She thinks students should not sit next to close friends!"

February 9--"J. F. feels that the freshmen will benefit the most from the Learning Center because their study habits are not as set as are the seniors."

March 7--"I was delighted to learn from Mr. B. that I can dial a shorthand lesson at any time in order to 'brush up' on this skill since I plan to work as a secretary this summer before teaching in September. What a convenience!"

March 15--"My own personal opinion is that the Learning Center will come to be considered (if not already) a great step forward in education. For ours to be effective, I feel that: (1) The noise must be controlled; I don't mean forbidding whispering among small groups, etc., but students must feel that it is definitely a place for study and not loud visiting. (2) More supplemental tapes designed for classes that don't use the Learning Center as consistently as others. Mr. P. has the right idea about lectures on tape regarding various periods of literature. (3) Orientation of freshmen as to purposes of Learning Center and how they should act in it, etc."

April 6--"L. P. reports that since the Learning Center is being patrolled it is again quieter. L., a freshman, spends approximately 15 hours a week in her carrel."

April 24--"L. N. has mixed emotions about the Learning Center. Too noisy, but the purpose is good if the noise is cut down; it needs more supervision."

April 25 --"E. F. said portions of Learning Center are useless. He feels a library is better for studying because books are readily accessible; he likes the idea of listening to tapes though."

April 30--"V. W. dislikes it because sometimes it gets noisy but it is better than a dorm room. She can get more done in the Learning Center. She does like it much more than a room because if she is tired and tries to study in her room, she just can't seem to."

May 2--"J. G. feels the Learning Center is a poor place to study because of talking."

May 8--"J. S., a semi-finalist in National Merit Scholarship Contest said, 'I love the Learning Center. It is a place where everything is altogether.' She likes to come to the dorm for pleasure. In the Learning Center you can study well (in her corner) because people study. In the dorm when you are studying, people always come by to visit and you can't concentrate. In the Learning Center you can meet a lot of people. She and her friends study hard."

Faculty
Educational Testing Service
Oklahoma Christian College
College and University Environment Scales

Scale 1. Practicality

Item	Statement	Key	F 65	S 66	S 67
1.	Students quickly learn what is & is not done here	T	89.7	90.4	100
2.	Students need written excuse for missing classes	T	17.2	9.5	8.6
3.	Many dances parties and social activities	T	6.9	33.3	21.7
4.	Sts encouraged to criticize admin policies & teaching	F	69	80.9	82.6
5.	Signs & directories clearly mark campus buildings	T	17.2	4.7	13
6.	There is a lot of apple-polishing around here	T	20.7	19	17.3
7.	New fads & phrases occur constantly among students	T	44.8	23.8	21.7
8.	Student organizations supervised to avoid mistakes	T	16.9	57.1	78.2
9.	Worship stresses service to God obedience his laws	T	100	95.2	100
10.	Important socially to be in right club or group	T	6.9	9.5	26
11.	Prof check accuracy-promptness student assignments	T	86.2	61.9	73.9
12.	Dorm rooms likely decorated pennants & pinups not art	T	44.8	52.3	56.5
13.	Some professors regard questions personal criticism	T	34.6	33.3	43.4
14.	Education here makes students practical & realistic	T	75.9	71.4	82.6
15.	New jokes & gags get around the campus in a hurry	T	69	80.9	65.2
76.	Courses stress speculative-abstract not concrete	F	62.1	57.1	69.5
77.	Students pattern themselves after people they admire	T	96.6	95.2	86.9
78.	Big college events draw much student enthusiasm	T	79.3	71.4	78.2

Item	Statement	Key	F 65	S 66	S 67
79.	Frequent tests are given in most courses	T	82.8	87.1	7.39
80.	In many classes students have an assigned seat	T	55.2	57.1	65.2
81.	Student elections cause intense campaigns & feelings	T	79.3	61.9	39.1
82.	Intensive program intramural sports-informal athletics	T	89.7	95.2	100
83.	Many practical courses in typing report writing etc	T	93.1	95.2	91.3
84.	Those knowing right faculty get better break here	T	23.1	23.8	34.7
85.	Student pep rallies-demonstrations etc occur rarely	F	17.2	28.5	17.3
86.	Students take great pride in own appearance	T	48.6	80.9	65.2
87.	Everyone has a lot of fun at this school	T	75.9	80.9	65.2
88.	Recognized group of student leaders on this campus	T	89.7	85.7	86.9
89.	Values most stressed open-mindedness & objectivity	F	65.5	71.4	69.5
90.	Important people expect proper respect be shown them	T	72.4	66.6	56.5
	Score		16	15	14

Scale 2. Community

Item	Statement	Key	F 65	S 66	S 67
31.	Students spend much time together snack bars etc	T	86.2	90.4	91.3
32.	Great deal of borrowing & sharing among students	T	86.2	85.7	91.3
33.	Definite times weekly dining gracious social event	T	3.4	9.5	8.6
34.	Faculty rarely or never call students by first name	F	93.1	100	95.6
35.	Students commonly share their problems	T	89.7	85.7	100

Item	Statement	Key	F 65	S 66	S 67
36.	The professors go out of their way to help you	T	100	100	95.6
37.	Students respond to ideas & events in cool-detached way	F	75.9	61.9	56.5
38.	There are frequent informal social gatherings	T	69	85.7	81.6
39.	Most people here very considerate of others	T	82.8	85.7	91.3
40.	Many chances development organizing-directing others	T	75.9	86.7	65.2
41.	Very few things arouse much excitement or feeling	F	82.8	57.1	60.8
42.	Upperclassmen active helping new students adjust	T	86.2	85.7	82.6
43.	School has reputation for being very friendly	T	96.2	95.2	100
44.	History & traditions of the college emphasized	T	55.2	52.3	82.6
45.	Groups easily gathered for informal activities	T	100	95.2	86.9
106.	Much excitement & restlessness just before holidays	T	82.8	90.4	95.6
107.	Students often do personal services for the faculty	T	65.5	42.3	65.2
108.	Graduation pretty matter-of-fact unemotional event	F	82.8	76.1	78.2
109.	Training for service to community major responsibility	T	90.6	100	91.3
110.	All undergrads must live in university approved housing	T	89.7	90.4	91.3
111.	Student-run projects or shows well publicized	T	86.2	71.9	65.2
112.	Students expected to work out details of own programs	F	72.4	76.1	56.5
113.	Student mid-term & final grades are reported to parents	T	93.1	95.2	95.6
114.	Students force each other to expected codes of conduct	T	72.4	66.6	86.9
115.	There is a lot of group spirit	T	75.9	80.9	60.8
116.	Students often reminded to attempt prevention illness	T	62.1	42.8	43.4
117.	Most faculty not interested students personal problems	F	96.6	100	91.3

Item	Statement	Key	F 65	S 66	S 67
118.	Proper social forms and manners are important here	T	58.6	71.4	39.1
119.	The school helps everyone get acquainted	T	96.6	95.2	95.6
120.	Residents need written permission for overnight absence	T	93.1	90.4	95.6
	Score		26	23	20

Scale 3. Awareness

Item	Statement	Key	F 65	S 66	S 67
46.	Tutorial & honors programs available to qualified	T	79.3	85.7	69.5
47.	Public debates are held frequently	T	10.3	4.7	8.6
48.	Many faculty members had varied & unusual careers	T	62.1	47.6	47.8
49.	Many social science professors active researchers	T	31	38	39.1
50.	Great interest in poetry music painting sculpture	T	37.9	28.5	39.1
51.	Student paper rarely prompts discussion ethical matters	F	34.5	33.3	17.3
52.	Library has paintings & records students use often	T	17.2	19	8.6
53.	Lecture noted literary critic would be poorly attended	F	34.5	28.5	30.4
54.	Channels for expressing student complaints accessible	T	75.9	80.9	65.2
55.	There are paintings or statues of nudes on campus	T	17.2	14.2	8.6
56.	Courses & faculty in social sciences outstanding	T	48.3	42.8	26.0
57.	Students actively concerned national-international affairs	T	65.5	57.1	47.8
58.	Capacity crowd at lecture noted philosopher theologian	T	72.4	47.6	43.4
59.	Many facilities & opportys for indiv creative activity	T	55.2	57.1	52.1
60.	Controversial speakers stir much student discussion	T	82.8	80.9	86.9

Item	Statement	Key	F 65	S 66	S 67
121.	Most Professors are dedicated scholars in their field	T	79.3	71.4	60.8
122.	Modern art and music get little attention here	F	62.1	76.1	65.2
123.	Sts get sense responsibility for role social-polit life	T	72.4	90.4	60.8
124.	Many noted people are brought for lectures-concerts-etc	T	20.7	14.2	8.6
125.	Open display of emotion would embarrass most professors	F	65.5	47.6	65.2
126.	Many natural science profs actively engage in research	T	24.1	28.5	21.7
128.	Few students plan post-grad work in social sciences	F	55.2	47.6	56.5
129.	To most students art is to be studied rather than felt	F	24.1	23.6	30.6
130.	Expression of strong personal belief or conviction rare	F	96.6	85.7	91.3
131.	Concerts & art exhibits draw big crowds of students	T	34.5	14.2	8.6
132.	Many colorful and controversial figures on faculty	T	13.8	14.2	0.0
133.	Many chances understand-criticize great works in arts	T	51.7	42.8	43.4
134.	Students interested in value systems-ethics etc	T	69	38	65.2
135.	Encouraged take part social reforms-polit programs	T	58.6	47.6	56.5
	Score		8	7	3

Scale 4. Propriety

Item	Statement	Key	F 65	S 66	S 67
61.	Students rarely get drunk and disorderly	T	96.6	95.2	95.6
62.	Many prominent faculty active local-national politics	F	79.3	90.2	95.6
63.	Most students exhibit much caution & self-control	T	93.1	95.2	91.3

Item	Statement	Key	F 65	S 66	S 67
64.	Students expected to develop also express ideals	T	89.7	80.9	82.6
65.	Many students drive sports cars	F	75.9	80.9	65.2
66.	Helpful person likely to be regarded as nuisance	F	75.9	80.9	78.2
67.	Most students expect to achieve future fame or wealth	F	75.9	100	86.9
68.	Students start projects without enough planning	F	31	33.3	26
69.	Some popular sts have knack for subtle sexy remarks	F	79.3	80.9	86.9
70.	Students conscientiously take care of school property	T	55.2	57.1	52.1
71.	Student publications never lampoon people-institutions	T	31	61.9	73.9
72.	Student parties are colorful and lively	F	34.5	38	47.8
73.	People here are always trying to win an argument	F	65.5	95.2	65.2
74.	Society orchestras more popular jazz & novelty groups	T	10.3	14.2	8.6
75.	Drinking & late parties generally tolerated	F	93.1	95.2	86.9
136.	Students occasionally plot escapade or rebellion	F	75.9	71.4	56.5
137.	Students pay little attention to rules & regulations	F	96.6	90.4	86.9
138.	Instructors clarify goals & purposes of their courses	T	89.7	85.7	91.3
139.	Bermuda shorts pin-up pictures etc common here	F	96.6	95.2	100
140.	Spontaneous student rallies-demonstrations are frequent	F	100	95.2	100
141.	Always many little quarrels going on	F	86.2	85.7	86.9
142.	Most student rooms are pretty messy	F	24.1	23.8	34.7
143.	Few students bother with protection against weather	F	48.3	42.8	52.1
144.	It is easy to take clear notes in most courses	T	65.5	76.1	73.9
145.	Students frequently do things on the spur of the moment	F	31	38	17.3
146.	Rough games-sports are big part of intramural athletics	F	41.4	38	34.7
147.	Students are to report violations of rules-regulations	T	55.2	71.4	79.4

Item	Statement	Key	F 65	S 66	S 67
148.	Student pranks would be unthinkable here	T	6.9	9.5	0.0
149.	Many students expect adaption by others not selves	F	62.1	38.0	39.1
150.	Students ask consent to deviate from common policies	T	62.1	76.1	69.5
	Score		15	19	17

Scale 5. Scholarship

Item	Statement	Key	F 65	S 66	S 67
16.	Fairly easy to pass most courses without hard work	F	65.5	52.3	52.1
17.	Most profs thorough teachers probe fundamentals	T	82.8	80.9	65.2
18.	Students wait to be called before speaking in class	F	58.6	47.6	39.1
19.	Lab facilities in natural sciences are excellent	T	41.4	28.5	34.7
20.	Learning contents text enough to pass most courses	F	41.4	47.6	39.1
21.	Lecture by famous scientist would be poorly attended	F	58.6	42.8	32.1
22.	Students set high standards achievement for selves	T	27.6	28.5	26
23.	Professors push student capacities to the limit	T	17.2	23.8	13
24.	Class discussions typically vigorous & intense	T	34.5	33.3	43.4
25.	All know snap courses to take & tough ones to avoid	F	34.5	28.5	26
26.	Long serious intellectual student discussions common	T	31	14.2	17.3
27.	Many courses passed by personality pull bluff	F	79.3	85.7	78.2
28.	Standards set by professors not hard to achieve	F	39.9	42.8	30.4
29.	Careful reasoning & clear logic important for grade	T	72.4	90.4	69.5
30.	Students put much energy into all in class & out	T	34.5	33.3	26

Item	Statement	Key	F 65	S 66	S 67
91.	Students working hard for grades likely regarded as odd	F	93.1	90.4	82.6
92.	Much interest in the philosophy & methods of science	T	31	28.5	26
93.	So much to do students are busy all the time	T	48.3	38	60.8
94.	Students sometimes noisy-inattentive concerts-lectures	F	69	80.9	56.5
95.	Most courses require much non-class study preparation	T	51.7	57.1	43.4
96.	Courses & faculty in natural sciences outstanding	T	51.7	33.3	34.7
97.	Few students would ever work or play to exhaustion	F	27.6	38	34.7
98.	Most courses are a real intellectual challenge	T	55.2	42.8	30.4
99.	Courses examinations readings frequently revised	T	93.1	100	86.9
100.	Students very serious & purposeful about their work	T	55.2	47.6	47.8
101.	People around here seem to thrive on difficulty	T	31	33.3	52.1
102.	Professors usually take attendance in class	F	3.4	10.0	17.3
103.	Exams provide true measure achievement & understanding	T	72.4	76.1	56.5
104.	There is very little studying here over weekends	F	20.7	23.8	26
105.	School noted support pure scholarship-basic research	T	31	28.5	13
	Score		7	7	4

Students
Educational Testing Service
Oklahoma Christian College
College and University Environment Scales

Scale 1. Practicality

Item	Statement	Key	S 65	S 66	S 67
1.	Students quickly learn what is & is not done here	T	89.7	89.8	82.1
2.	Students need written excuse for missing classes	T	32.7	14.1	21.1
3.	Many dances parties and social activities	T	20.6	23.6	21.1
4.	Sts encouraged to criticize admin policies & teaching	F	57.9	75	73.9
5.	Signs & directories clearly mark campus buildings	T	38.3	27.7	21.1
6.	There is a lot of apple-polishing around here	T	43	54	53.6
7.	New fads & phrases occur constantly among students	T	43	51.3	40.6
8.	Student organizations supervised to avoid mistakes	T	76.6	63.5	69.9
9.	Worship stresses service to God obedience his laws	T	100	99.3	99.1
10.	Important socially to be in right club or group	T	10.3	21.6	17
11.	Profs check accuracy-promptness student assignments	T	55.1	46.6	54.4
12.	Dorm rooms likely decorated pennants & pinups not art	T	28	22.2	22.7
13.	Some professors regard questions personal criticism	T	52.3	44.5	35.7
14.	Education here makes students practical & realistic	T	88.8	67.5	69.9
15.	New jokes & gags get around the campus in a hurry	T	73.8	87.1	78.8
76.	Courses stress speculative-abstract not concrete	F	59.8	58.7	59.3
77.	Students pattern themselves after people they admire	T	86	78.3	88.6
78.	Big college events draw much student enthusiasm	T	80.4	69.5	74.7

Item	Statement	Key	S 65	S 66	S 67
79.	Frequent tests are given in most courses	T	70.1	57.4	79.6
80.	In many classes students have an assigned seat	T	62.6	68.9	68.2
81.	Student elections cause intense campaigns & feelings	T	72	63.5	30.8
82.	Intensive program intramural sports-informal athletics	T	99.1	87.1	95.9
83.	Many practical courses in typing report writing etc	T	87.9	82.4	77.2
84.	Those knowing right faculty get better break here	T	39.3	52.7	46.3
85.	Student pep rallies-demonstrations etc occur rarely	F	17.8	18.9	13.8
86.	Students take great pride in own personal appearance	T	82.2	72.2	84.5
87.	Everyone has a lot of fun at this school	T	84.1	66.8	66.6
88.	Recognized group of student leaders on this campus	T	72.9	83.7	90.2
89.	Values most stressed open-mindedness & objectivity	F	37.4	72.7	51.2
90.	Important people expect proper respect be shown them	T	60.7	75	72.3
	Score		14	14	16

Scale 2. Community

Item	Statement	Key	S 65	S 66	S 67
31.	Students spend much time together snack bars etc	T	88.8	90.5	80.4
32.	Great deal of borrowing & sharing among students	T	91.6	87.8	91.8
33.	Definite times weekly dining gracious social event	T	6.5	8.1	8.1
34.	Faculty rarely or never call students by first names	F	95.3	94.5	86.9
35.	Students commonly share their problems	T	85	92.5	90.2

Item	Statement	Key	S 65	S 66	S 67
36.	The professors go out of their way to help you	T	84.1	83.1	80.4
37.	Students respond to ideas & events in cool-detached way	F	62.6	52.7	43.9
38.	There are frequent informal social gatherings	T	72.9	69.5	73.9
39.	Most people here very considerate of others	T	94.4	81.7	86.9
40.	Many chances development organizing-directing others	T	77.6	66.8	72.3
41.	Very few things arouse much excitement or feeling	F	73.8	66.8	60.9
42.	Upperclassmen active helping new students adjust	T	76.6	74.1	82.1
43.	School has reputation for being very friendly	T	97.2	95.9	95.1
44.	History & Traditions of the college emphasized	T	65.4	51.3	71.5
45.	Group easily gathered for informal activities	T	86.9	87.1	84.5
106.	Much excitement & restlessness just before holidays	T	95.3	97.2	97.5
107.	Students often do personal services for the faculty	T	69.2	72.9	73.1
108	Graduation pretty matter-of-fact unemotional event	F	62.6	66.8	64.2
109.	Training for service to community major responsibility	T	95.3	91.2	85.3
110.	All undergrads must live in university approved housing	T	81.3	74.3	76.4
111.	Student-run projects or shows well publicized	T	68.2	72.2	66.6
112.	Students expected to work out details of own programs	F	48.6	44.5	43.9
113.	Student mid-term & final grades are reported to parents	T	100	98.6	100
114.	Students force each other to expected codes of conduct	T	72.9	76.3	74.7
115.	There is a lot of group spirit	T	68.2	58.7	68.2
116.	Students often reminded to attempt prevention illness	T	54.2	54.7	56.9
117.	Most faculty not interested students personal problems	F	86	85.1	79.6
118.	Proper social forms and manners are important here	T	56.1	41.2	52.8

Item	Statement	Key	S 65	S 66	S 67
119.	The school helps everyone get acquainted	T	90.7	84.4	82.1
120.	Residents need written permission for overnight absence	T	92.5	85.8	96.7
	Score		23	22	23

Scale 3. Awareness

Item	Statement	Key	S 65	S 66	S 67
46.	Tutorial & honors programs available to qualified	T	79.4	69.5	65
47.	Public debates are held frequently	T	15	11.4	8.1
48.	Many faculty members had varied & unusual careers	T	51.4	44.5	39.8
49.	Many social science professors active researchers	T	26.2	31.7	37.3
50.	Great interest in poetry music painting sculpture	T	50.5	43.2	37.3
51.	Student paper rarely prompts discussion ethical matters	F	45.8	42.5	29.2
52.	Library has paintings & records students use often	T	3.7	9.4	8.9
53.	Lecture noted literary critic would be poorly attended	F	44.1	42.5	26.8
54.	Channels for expressing student complaints accessible	T	68.2	52.7	47.9
55.	There are paintings or statues of nudes on campus	T	16.8	13.5	5.6
56.	Courses & faculty in social sciences outstanding	T	30.8	25.6	25.2
57.	Sts actively concerned national-international affairs	T	74.8	75.6	62.6
58.	Capacity crowd at lecture noted philosopher theologian	T	49.8	63.5	60.9
59.	Many facilities & opportys for indiv creative activity	T	56.1	47.9	46.3
60.	Controversial speakers stir much student discussion	T	87.9	81	86.1
121.	Most professors are dedicated scholars in their field	T	84.1	80.4	91.8

Item	Statement	Key	S 65	S 66	S 67
122.	Modern art and music get little attention here	F	58.9	68.2	62.6
123.	Sts get sense responsibility for role social-polit life	T	70.1	68.9	61.7
124.	Many noted people are brought for lectures-concerts-etc	T	60.5	29.7	36.5
125.	Open display of emotion would embarrass most professors	F	59.8	60.1	53.6
126.	Many natural science profs actively engaged in research	T	24.3	25	18.6
127.	College values special museums or collections	T	12.1	14.1	54.4
128.	Few students plan post-grad work in social sciences	F	52.3	49.3	46.3
129.	To most students art is to be studied rather than felt	F	29.9	35.1	21.9
130.	Expression of strong personal belief or conviction rare	F	87.9	90.5	91
131.	Concerts & art exhibits draw big crowds of students	T	36.4	25	13
132.	Many colorful and controversial figures on faculty	T	39.3	41.8	34.1
133.	Many chances understand-criticize great works in arts	T	43	38.5	36.5
134.	Students interested in value systems-ethics etc	T	63.6	64.8	58.5
135.	Encouraged take part social reforms-polit programs	T	70.1	56.7	43
	Score		8	7	3

Scale 4. Propriety

Item	Statement	Key	S 65	S 66	S 67
61.	Students rarely get drunk and disorderly	T	90.7	91.8	95.9
62.	Many prominent faculty active local-national politics	F	76.6	89.8	86.1
63.	Most students exhibit much caution & self-control	T	94.4	89.1	95.9
64.	Students expected to develop also express ideals	T	87.9	80.4	75.6
65.	Many students drive sports cars	F	80.4	81.7	83.7

Item	Statement	Key	S 65	S 66	S 67
66.	Helpful person likely to be regarded as nuisance	F	73.8	75	77.2
67.	Most students expect to achieve future fame or wealth	F	74.8	77.6	82.9
68.	Students start projects without enough planning	F	70.1	60.8	54.4
69.	Some popular sts have knack for subtle sexy remarks	F	75.7	67.5	78
70.	Students conscientiously take care of school property	T	66.4	56.7	71.5
71.	Student publications never lampoon people-institutions	T	67.3	72.2	72.3
72.	Student parties are colorful and lively	F	38.3	48.6	48.7
73.	People here are always trying to win an argument	F	58.9	46.6	60.1
74.	Society orchestras more popular jazz & novelty groups	T	16.8	11.4	9.7
75.	Drinking & late parties generally tolerated	T	93.5	97.2	94.3
136.	Students occasionally plot escapade or rebellion	F	64.5	49.3	73.1
137.	Students pay little attention to rules & regulations	F	86.9	85.8	89.4
138.	Instructors clarify goals & purposes of their courses	T	88.8	81	82.1
139.	Bermuda shorts pin-up pictures etc common here	F	93.5	93.9	98.3
140.	Spontaneous student rallies-demonstrations are frequent	F	90.7	92.5	98.3
141.	Always many little quarrels going on	F	83.2	84.3	84.5
142.	Most student rooms are pretty messy	F	57	62.8	64.2
143.	Few students bother with protection against weather	F	75.7	72.9	69.9
144.	It is easy to take clear notes in most courses	T	79.4	80.4	89.4
145.	Students frequently do things on the spur of the moment	F	20.6	18.2	14.6
146.	Rough games-sports are big part of intramural athletics	F	53.3	41.2	59.3
147.	Students are to report violations of rules-regulations	T	76.6	79	89.4
148.	Student pranks would be unthinkable here	T	14	9.4	30.8

Item	Statement	Key	S 65	S 66	S 67
149.	Many students expect adaptation by others not selves	F	60.7	52	44.7
150.	Students ask consent to deviate from common policies	T	75.7	77	74.7
	Score		21	19	21

Scale 5. Scholarship

Item	Statement	Key	S 65	S 66	S 67
16.	Fairly easy to pass most courses without hard work	F	71	66.2	69.1
17.	Most profs thorough teachers probe fundamentals	T	75.7	62.1	65.8
18.	Students wait to be called before speaking in class	F	44.9	54	56
19.	Lab facilities in natural sciences are excellent	T	45.8	33.1	17.8
20.	Learning contents text enough to pass most courses	F	50.5	57.4	54.4
21.	Lecture by famous scientist would be poorly attended	F	66.4	56	39.8
22.	Students set high standards achievement for selves	T	70.1	58.7	60.1
23.	Professors push student capacities to the limit	T	27.1	20.2	21.1
24.	Class discussions typically vigorous & intense	T	43.9	30.4	22.7
25.	All know snap courses to take & tough ones to avoid	F	37.4	28.3	29.2
26.	Long serious intellectual student discussions common	T	39.3	38.5	35.7
27.	Many courses passed by personality pull bluff	F	68.2	60.1	65
28.	Standards set by professors not hard to achieve	F	47.7	39.8	43.9
29.	Careful reasoning & clear logic important for grade	T	56.3	69.5	75.6
30.	Students put much energy into all in class and out	T	49.5	44.5	48.7

Item	Statement	Key	S 65	S 66	S 67
91.	Students working hard for grades likely regarded as odd	F	87.9	92.5	90.2
92.	Much interest in the philosophy & methods of science	T	36.4	31.7	26.8
93.	So much to do students are busy all the time	T	49.5	45.9	52
94.	Students sometimes noisy-inattentive concerts-lectures	F	66.4	56.7	65
95.	Most courses require much non-class study preparation	T	57	43.9	53.6
96.	Courses & faculty in natural sciences outstanding	T	42.1	29	24.3
97.	Few students would ever work or play to exhaustion	F	56.1	62.1	57.7
98.	Most courses are a real intellectual challenge	T	54.2	36.8	42.2
99.	Courses examination readings frequently revised	T	63.6	68.9	81.3
100.	Students very serious & purposeful about their work	T	67.3	56	66.6
101.	People around here seem to thrive on difficulty	T	52.3	52.3	48.7
102.	Professors usually take attendance in class	F	7.5	24.3	36.5
103.	Exams provide true measure achievement & understanding	T	63.6	54.7	40.6
104.	There is very little studying here over week-ends	F	39.3	33.7	29.2
105.	School noted support pure scholarship-basic research	T	48.6	33.7	33.3
	Score		9	4	6